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UNITED STATES AIR FORCE
ARMSTRONG LABORATORY

GUIDELINES FOR CONDUCTING SURVEYS

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13. ABSTRACT *(Maximum 200 words)*

This report provides practical guidance for anyone, inside or outside the Air Force, interested in constructing surveys, especially for gathering data about general attitudes and behaviors. It is also useful for those interested in constructing surveys (i.e., application forms) for evaluative purposes. The report begins with a discussion of various types of surveys (paper-and-pencil, automated, telephone) and the criteria for selecting one or another type. The use of surveys is also contrasted with other data-gathering techniques such as interviews and naturalistic observation. How to increase response rate by motivating participation is explained. Then survey ethics are discussed from free speech and privacy perspectives with emphasis upon the need for ensuring voluntary participation and maintaining confidentiality. Sampling issues and ways to distribute and return surveys are presented. This is followed by a detailed discussion of item and survey construction with practical suggestions for writing item stems and common or specific responses options. Finally, techniques for analyzing and reporting results are presented.

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PREFACE

This guide was written to provide practical assistance to people everywhere who need help developing surveys. It should be useful to people inside and outside the Air Force who are interested in developing and analyzing a survey. It is also useful for survey participants as well as survey developers. I was inspired to write it by the hundreds of people who have come to me for survey advice and assistance over the past several years.

I take a strong stand on some issues and readers may not agree with me. Also, my views do not necessarily reflect those of the Armstrong Laboratory, the Air Force or the United States Government.

I thank my colleagues in the Human Resources Directorate of the Armstrong Laboratory for their valuable comments on this manuscript. Special thanks go to Dr. Walter G. Albert, Dr. R. Bruce Gould, Col. Gary D. Zank, Mr. Larry T. Looper, Dr. Patrick C. Kyllonen and Dr. M. Jacobina Skinner. Dr. Albert was especially helpful. He frequently provided helpful comments and gave the manuscript a thorough final edit. Mr. William J. Phalen, formerly of the Directorate, also provided good advice on scaling issues. Ms. Virginia Moody of the Human Systems Center Quality Office encouraged me to write the manuscript, gave it a careful review, and provided excellent suggestions. Mr. Charles Hamilton and Mr. Louis Datko, survey experts at Headquarters Air Force Personnel Center (HQ AFPC), also reviewed the manuscript and provided valuable input.

In the ethics chapter and in a few appendices there is discussion of legal and Constitutional issues. I thank Judge Arthur J. Doran Jr. and attorney Arthur J. Doran III for reviewing the manuscript and attesting to the veracity of the legal discourse. I thank Ms. Jane Tuck for inspiring his devotion to the Constitution and to the Bill of Rights.

I thank Ms. Sharon L. McDonald and Ms. Kathryn J. Hawk of the Human Resources Directorate who often helped me with word-processing problems. Sharon also edited a draft of the report and found mistakes I would not have found himself. Thanks also go to Ms. Elizabeth M. Knippa for reviewing an earlier draft.

Ms. Marilyn Goff, Ms. Deborah A. Hann and Ms. Laura Gomez of the Technical Library at the Human Resources Directorate also provided valuable assistance by ordering and returning numerous books through interlibrary loan and tracking down obscure information in the library.

Use of First Person Pronouns: Notice that I use "I" and "me" above. It is uncommon to write technical reports in the first person using personal pronouns. However, this report is in large part a personal expression of the author's experiences in research and consultation over several decades in which he provides personal examples. Initially "the author" was used. This term was awkward and sounded stilted. Thus, throughout the report, I now use "I," "me" or "my" to refer to myself.

GUIDELINES FOR CONDUCTING SURVEYS

Chapter 1

Introduction

About six years ago I was asked by the commander of what was then the Human Systems Center to develop customer satisfaction instruments for the center. My colleagues and I were also asked to train others working in quality improvement offices throughout what was then Air Force Systems Command (AFSC) on how to build such surveys themselves. I produced a brief handout at that time called **Guidelines for Building Customer Satisfaction Instruments** which people have asked for ever since. This handout was very short, providing only limited guidance. **Guidelines for Constructing Surveys** was written to provide far more complete information.

The intent is to provide a **practical** teaching tool useful to anyone, inside or outside the Air Force, who wants to develop, administer and analyze a survey. Although it is intended to help Air Force personnel, it has broad applicability to survey researchers anywhere. The text is most useful to survey developers who wish to measure general attitudes or behaviors. It is less applicable to occupational analysts concerned with surveys of job tasks.

Hundreds of people requested my help with surveys over the past several years and I had little written guidance to offer them. Good academic survey texts, such as the **Handbook of Survey Research** (Rossi, Wright & Anderson, 1983), were usually considered too technical and difficult to be of much use to the people who asked for assistance. They wanted rapid access to easily understood, practical information

Although many survey texts may be too complex for would-be survey developers who are new to the task, there are some easily understood books available which may also be helpful. See for example, Fink and Kosecoff (1985), Bradburn and Sudman (1988), Fowler (1993) and Salant and Dillman (1994).

This text should not only be helpful to people conducting surveys, but also to those who are asked to take a survey. It will help both survey developers and potential survey participants tell the difference between well constructed and poorly constructed surveys. Also, I hope to heighten the sensitivity of data gatherers and information providers to ethical issues. Survey developers will learn about their ethical responsibilities to survey participants. Participants will learn under what conditions they may have the right to refuse to participate if survey developers, out of ignorance or insensitivity, do not live up to these responsibilities (see Chapter 4).

Many examples of items or other survey content are provided. These are placed in a simple border like this:

Examples of items and other survey content are framed like this.

Sometimes advanced topics are discussed that might not be of interest to readers who need only develop and analyze a simple survey. Automated surveys and inferential analyses fall into this category. Such optional reading is placed in a shadowbox like this:

Optional, more advanced issues and techniques are framed like this.

Eleven appendices are provided. They contain information that may distract from the flow of the text and be only of interest to some readers. Their content is as follows:

- Appendix A contains examples of cover letters from two surveys.

- Appendix B contains examples of introductory comments and instructions.

- Appendix C contains a discussion of the rights perspective which provides a foundation for the survey ethics chapter.

- Appendix D provides ethical principles which are relevant to surveys from the American Psychological Association's (APA's) Ethics Code.

- Appendix E provides a First Amendment discussion of why specific information about job-irrelevant organizational memberships should be avoided.

- Appendix F provides guidance for group survey administrators.

- Appendix G provides a Statement of Work requesting automated survey disk duplication and distribution under contract.

- Appendix H provides guidance for automated survey points of contact.

- Appendix I provides examples of many different Likert scales.

- Appendix J provides brief guidance on interviewing which would be useful, for example, if you were interviewing to determine survey content or interviewing pretest participants.

- Appendix K provides suggested questions for pretest participants.

The text contains intentional redundancies. This is because readers are expected to enter and exit the manuscript at any point that provides useful content. Also, they may or may not read what is in the shadowboxes. The contents pages are quite detailed so readers can easily find what they want. If you do not have time to read the text, but are interested in a summary of the recommendations, go to the Postscript after Chapter 10. The Postscript also provides a good overview of the content of each chapter.

In some situations, a survey might not be the best approach to gathering information. For instance, you may need in-depth information from a small group of people and care little about quantitative analyses. In such a situation, an interview approach would be more suitable. You may want to use multiple methods. For example, you may want to conduct interviews as an initial step to gather information concerning the appropriate content of a survey. For those interested in interviewing techniques, see the companion manuscript, **Guidelines for Conducting Interviews** (Watson, 1997). You will also find brief guidance on interviewing in

Appendix J. You may want to seek the assistance of organizations which conduct surveys or interviews. Bradburn and Sudman (1988, Chapter 4) provide an extensive list.

You may want to take a more anthropological approach. You could place yourself more fully in a setting to get a feel for its "culture." For those interested in naturalistic observation, see Patton's (1980) Chapter 6, **Evaluation Through Observation**, or Jorgensen (1989).

Chapter 2

Paper-and-Pencil, Automated, and Telephone Surveys

Surveys come in several forms, from paper-and-pencil to automated or computerized formats. Sometimes an interviewer conducts a survey by phone. Each of these approaches is discussed below.

Paper-and-Pencil Surveys

Paper-and-pencil surveys have been used for years. They are simple to develop, but printing can be time consuming and administration, especially via mail, can be cumbersome. They usually require a separate or embedded optical scan sheet, which needs to be scanned before a data tape can be created. The paper-and-pencil survey process is slow and labor intensive. It is also not environmentally friendly when you consider all the trees consumed for paper, optical-scan sheets and envelopes. Paper-and-pencil surveys will probably be used less often in the years ahead.

Automated Surveys

In the age of computers and the "information superhighway," automated surveys (that is, those that respondents take on personal computers) are being developed and used more frequently. These waves of the future can be administered on disk, over E-mail, or on special drivers on area networks. They can also be administered over the internet. There are commercially available authoring systems, for instance from Rayosoft. Scientists and computer specialists with the Armstrong Laboratory's Human Resources Directorate and the Institute for Job and Occupational Analysis have developed a windows-based automated survey authoring system. This technology will handle very complex task and attitude survey requirements. For more information on this system, contact Dr. Winston Bennett at (210) 536-1981 (The DSN prefix is 240). Dr. Bennett's address is the same as mine except the organizational symbol is AL/HRCF. For many applications, using an automated format provides the advantages of easier and faster administration, lower cost, higher response rate, and easier analysis. Also, research at the Armstrong Laboratory has shown that most respondents prefer this format.

Using an automated format is typically not too expensive. If respondents have easy access to personal computers, it can be an appealing option. This format is also ideal for quick-turnaround studies where data needs to be gathered and analyzed rapidly, for instance, to make quick decisions on critical issues.

Telephone Surveys and Computer-Assisted Telephone Interviewing (CATI)

Another format is the telephone survey which can range from a simple paper-and-pencil survey read over the phone to Computer-Assisted Telephone Interviewing (CATI), which is quite sophisticated. It is like an automated survey but includes an interviewer asking questions prompted at a computer screen and inputting data via a computer. Telephone surveys are often used in marketing research and for political polling. The inclusion of a skilled interviewer makes it nearly as personal as a face-to-face interview, while avoiding the need for interviewers to intrude physically into the personal space (home or office) of those being interviewed.

However, like a face-to-face interview, it provides better opportunity to motivate participation or probe about what has been said than would be possible with a paper-and-pencil survey. Supervisors can listen in on interviews as they train novice interviewers. Real-time veracity checks are possible and data can be created during the interview. Like automated surveys, it is a good format to use for quick turnaround studies. On the down side, up-front costs can be high, it is labor intensive, and interviewers must be quite skilled. CATI, sometimes referred to using the broader term Computer Assisted Data Collection or CADAC, is discussed by Saris (1991).

Telephone surveys are often conducted by political pollsters. Such polls, as U.S. News and World Report (1995) documented disdainfully, can be flawed, and elected officials may rely too heavily on them rather than on their own inner vision and sense of leadership. However, if carefully conducted, they can be a rich, rapid source of the views of people at the grass roots. For interesting accounts of public opinion polling and its relationship to democratic processes and politics, see Bradburn and Sudman (1988) and Fishkin (1995).

Do not confuse telephone interviewing with the dubious practice of having a recorded message talk to you when you pick up the phone.

Criteria for Selecting Survey Type

Which survey format should you use? Should you use another method in preference to a survey? In making such decisions, consider the following criteria:

- **Sample Size**. If your sample is large, a paper-and-pencil format will do, but an automated approach is often better. If your sample is large and geographically dispersed, and you need the intimacy of a trained interviewer to persuade prospective respondents to take the survey (called a "conversion attempt") or to conduct in-depth probes, consider CATI. However, beware that costs may be high.

- **Available Personnel and Financial Resources**. If you have people to share the tedious work with you and not much money, a paper-and-pencil survey may be your method of choice, especially if the survey is short and sample size is small. However, consider an automated survey approach, since it need not be expensive, and you can avoid printing, mailing and scanning costs. If you do not have much money, forget CATI.

- **Time Pressure**. Do you need to get your survey out, back and analyzed fast? If so, consider CATI or the automated survey approach. Paper-and-pencil surveys are quite time consuming.

- **Need for Intimacy and Flexible Detail**. Do you need the questioning skills and social bonding with respondents that a trained interviewer provides? For instance, do you need to tease out extremely rich information in a flexible way? If so, choose CATI. Better yet, choose face-to-face interviewing. This is also a situation where naturalistic observation may be suitable.

- **Availability of Automated Technology**. Do your respondents all have good computers and access to a good E-mail system, a local or wide-area network, or the internet? Then an automated survey may be the way to go.

- **Objectionable or Intrusive Questioning**. I recommend that you avoid or limit the inclusion of objectionable or overly intrusive items, if possible. If you must include such items (they are sometimes legitimate), ask for such content in a way that that minimizes threat. Also, provide maximum privacy protection. The method of choice in such a situation is difficult to say. An anonymous survey provides a safe distance between the information requester and the information provider and ensures complete confidentiality. However, face-to-face interviews and CATI provide human contact in which trust can develop and sources of concern can be discussed. Trained interviewers also have the skill to create a non-threatening situation and get people to open up. This issue is addressed under Limit Objectionable or Very Intrusive Items on page 19 and Make Objectionable Items More Acceptable on page 55.

- **Non-Verbal Cues and Communication**. Are you interested in body language? Do you want to see if there is a disconnect between what is being said and what is actually felt? Do you want to tap underlying emotional issues with clarity? Do you want to observe social interaction among participants and get them to react to the statements or gestures of others? If these issues are important, choose interviews. If you want to observe all this in a natural setting, consider naturalistic observation.

Chapter 3

Motivating Participation

A survey developer's job is to motivate participation as well as to write good items. You need to interest people in taking your survey, especially given that, as discussed in the next chapter, participation should be voluntary. This may be difficult since people frequently throw surveys away. You are at a disadvantage relative to interviewers because you are typically not there in person to persuade potential respondents to participate. If your survey is group-administered, you are in a better position to encourage people to complete it. However, they may feel more pressured to participate and resent it.

Increase Response Rate

Survey developers need to motivate participation because response rates (sometimes called cooperation rates) can be low. Sudman (1983) reports that in poorly designed mail surveys, response rates as low as 5 or 10 percent are sometimes encountered. This is far too small a response rate to trust the results obtained. If response rate is very low, the investigator will have insufficient cases to perform trustworthy analyses. Thus, the representativeness of the sample (the extent to which it accurately reflects the population you are interested in) will be questionable.

People often claim to be "surveyed to death" and state that they just do not like surveys. People probably are over-surveyed. This problem is compounded by the fact that some surveys are of poor quality, some are too long, and overly intrusive questions are sometimes asked. In addition, people often do not understand the importance of a survey. Also, they may never get feedback about how their input produced beneficial change. These factors, and the voluntary nature of surveys, can result in refusals to participate.

The situation is not entirely bleak. It is my experience that with high quality paper-and-pencil surveys, response rates of between 50 and 70 percent can be expected. With computer-assisted telephone surveys involving human interviewers, or with automated surveys, response rates are typically higher.

If your response rate is quite low, you can send a follow-up survey (to everyone, or to those who did not respond if you have been tracking who did respond). You can also send a follow-up letter, post card or E-mail message to encourage people to complete and return their survey. This could be done automatically when an automated survey is sent and returned via E-mail. Sometimes a follow-up survey is sent only to people in an occupation or in a location where the response rate was low.

Be proactive. Take steps beforehand to motivate participation so the need for follow up is reduced. If you or your points of contact (POCs) can administer the survey in person via a group administration, do so. Prepare your POCs to do this task well. Use personal contact to explain the importance of the survey and the voluntary and confidential nature of participation. Answer questions and allay fears.

Group administration is often not practical. Usually, you are not present and need to use other means to motivate potential respondents. Advance warning and the offer of modest

payment for participation are sometimes used. Motivation can be enhanced by stressing the importance of the survey and the constructive change likely to result. This can be accomplished in an advance letter, in a cover letter, or in introductory comments. Also, respondents like to be kept informed about what was eventually done with the information provided. This demonstrates they had an impact. The professional appearance of your survey is an indirect way to show you are serious. A cover letter can indicate you have buy-in from top management. Easy-to-understand directions can also help encourage participation. If your survey is short, more people will respond to it. These issues are discussed below. In the next chapter, confidentiality and voluntary participation are discussed. These ethical issues also influence respondent motivation.

Inform Respondents Ahead of Time

A technique used by commercial firms is to alert the respondent ahead of time that that he or she will be receiving a survey by mail, phone or computer. This can be done by letter, post card, phone call, E-mail or even fax. Respondents are even sometimes provided with a 1-800 call-in number should they have questions. This number can also be used for respondents to take a telephone survey at a time convenient to them. Advance warning puts the respondent in the position of expecting the survey, and gives you the opportunity to explain its purpose and importance.

Consider Paying for Participation

Usually, respondents to organizational surveys are not paid for participation. Being consulted and gaining an opportunity to have impact are sufficient rewards for the short time spent. Payment is more likely in a marketing situation especially if focus group interviews are used instead of a survey. In survey research, if payment or other extrinsic reward is provided, it is usually modest. Too great a payment could lessen intrinsic motivation. Rather than pay everyone, Plous (1996) reports using a drawing to motivate participation. The winning respondent received $500.00. In a commercial situation, payment may consist of a coupon for a free meal at a restaurant or a discount on the purchase of a product or service. Using the restaurant example, you would not want to introduce bias by giving a coupon to only one restaurant if several restaurants were being evaluated. Participants may be influenced to evaluate the coupon provider more favorably than the competition

Another form of "payment" that I highly recommends is to provide respondents with some form of aggregate survey results. You can also explain what was done to make improvements based on the results. Sieber, (1992, p. 40) is somewhat skeptical of the practice of promising to make research results available to participants. She laments the promise may be difficult to keep and is often broken. She further states that the results of the study may not be of interest to respondents. She recommends that subjects be debriefed after survey administration. However, this may be difficult if the researcher is not present.

Ensure a Professional Appearance

Professional appearance is important, regardless of survey format. The more professional your survey looks, the more likely a respondent will be to take it since it conveys that you are competent and serious about your survey. Professional means both attractive and flawless. Use the best hardware/software you can find (word processing package, printer,

automated authoring system, etc.) and pay attention to spelling, grammar, proper spacing, layout and consistency. Make use of color, shading and attractive graphics if you can.

Add an Optional Cover

A cover is desirable, but not necessary if your survey is short. If the survey is an Air Force survey, it will usually have a Survey Control Number (SCN) and expiration date (see Request Approvals and Exemptions on page 65). The cover usually also contains the survey name, and the name and address of the responsible organization.

Include a Cover Letter

A cover letter is often used to introduce the survey to respondents. Here, and/or in introductory comments, stress the survey's importance, voluntary participation and confidentiality. This is also a good place to mention you will provide a results summary later, if you choose to do so. If you use a cover letter, it is best to have it signed by a high-level person known to have a legitimate interest in the survey results and the power to bring about needed changes. This lets respondents know you have the support of top management (or other influential clients). I have sometimes seen cover letters signed by the researcher. This is less effective since researchers do not convey the same sense of institutional backing or authority. They are also not usually affiliated with the institution sponsoring the research. After you have identified the dignitary to sign your letter (for example, the commander or CEO), do not expect him or her to write it. Ghost-write the letter for this person. Let him or her review the letter mostly for style and resist changes to its content. Having a dignitary sign your cover letter (called "prestige suggestion") increases the survey's perceived importance and legitimacy, increasing motivation.

Two examples of cover letters, are provided in Appendix A. The first, written by me, was signed by the Air Force Surgeon General and was used on the **USAF Medical Service Objective Medical Group (OMG) Survey.** The second letter was signed by the Assistant Secretary of the Air Force, Financial Management and Comptroller, who took a suggested letter written which I wrote and modified it. This letter was used on the **USAF Financial Management Career Survey.** Another good source of cover letter suggestions is Sieber (1992, pp. 34-37). She discusses consent statements, suggests what to include, and provides a sample letter.

Provide Introductory Comments and Instructions

Introductory comments and instructions are advised, even if a cover letter is used. If you have already covered most of the important topics in a cover letter, you can be brief except for general and specific instructions. If important topics such as the purpose and importance of the survey and the ethical safeguards of voluntary participation and confidentiality have not been covered, do so here. I often briefly repeat mention of voluntary participation and confidentiality because these issues are so important and some people ignore cover letters. Also, generally explain how to complete the survey. You can always have more specific instructions interspersed throughout the survey. If you use a separate optical scan sheet, explain how to fill it out. For example, you should instruct them to use a number 2 pencil, to mark their responses on the answer sheet, to make marks heavy, to avoid stray marks, and to not fold, staple or damage the sheet. Sometimes an example of the right way and the wrong way to mark the answer sheet

is provided. Embedded answer sheets (that are a part of a paper-and-pencil survey itself) are better than separate, general-purpose scan sheets. Let respondents know who to contact if they have questions. This person could be you. However, you way want to shelter yourself from the possibility of being contacted by many people, especially if your sample is large. If you have others assume this responsibility, take care to select and train socially skilled, empathic persons, aware of the survey content and knowledgeable enough to field questions. Sometimes this job goes to people at the respondents' work locations who are trained for this role as part of their job. At other times, the task may go to a point of contact who has had little experience with survey administration. Do what you can to prepare them. If you cannot train them in person, you can send them a brief tutorial on the information they need to know, how to distribute or administer the surveys and how to handle incoming questions. If you have multiple contact persons, you may need to be vague and say something like:

> If you have any questions, please contact your local survey administrator.

If one individual serves as your contact person, provide his or her name, address, phone number, and possibly a fax number or E-mail address. An example of introductory comments and instructions adapted from the **San Antonio Air Logistics Center Career Planning Survey** is provided as Appendix B.

In your introductory comments, or in your cover letter, you may encourage people to be frank. However, never insist they tell the truth or threaten punishment if they do not. Such statements could easily alienate respondents. They could decide not to complete your survey. In addition, it would do little good since, in most instances, you could not determine if they were telling the truth. If you could, it would be costly, labor intensive and too intrusive to verify their veracity.

In some instances you could encourage truth telling by indicating your intent to conduct a veracity check. For instance, on an application for employment (which is a crude survey), you could indicate you intention to contact former supervisors or teachers. Such veracity checks should be limited, not very invasive, and considered reasonable by the respondent. If you are insensitive to the right to privacy and indicate you will expend great effort to assess veracity, your efforts will backfire. You will likely encourage deception or nonparticipation.

Limit the Number of Items

Keep your survey short. I recommend that almost any survey should be able to be completed in 30 minutes or less by the typical respondent. In some applications, like customer satisfaction or quality progress, it is probably easy to keep your survey very short--25 items or less. My longest survey was 160 items. Even at that length, most respondents were able to complete it in less than 30 minutes. However, fewer items are recommended. A good upper limit is about 125 items. Don't just limit items; also limit the number of scales, and the number of shifts from one scale to another. Some survey developers ask participants to respond to the same item stems using many different scales. Sometimes multiple scales for the same item are legitimate, for instance in probing for importance and satisfaction or how things are versus how they should be. However, do not overdo it. If your items are short, comprehensible, and most use a single, common scale, then even long surveys can be taken quickly. The number of items

included can be higher than on surveys having longer items, frequent scale shifts, items with multiple scales, or many items with item-specific responses.

Sometimes survey developers allow organizations to add specific items of their own choosing, usually at the end of the survey. Although this practice adds length and may sometimes result in the inclusion of poorly worded items, it has the advantage of allowing organizations or workgroups to tailor the survey to address their specific concerns. Survey participants may also appreciate the chance to respond to organization-specific items.

Other ways to motivate participation include ensuring voluntary participation, maintaining confidentiality and limiting the number of items respondents would consider irrelevant, offensive or too intrusive. These issues are discussed in the next chapter on survey ethics.

Chapter 4

Survey Ethics: Gaining Important Information
While Protecting Individuals From Harm

Here are just a few reasons why surveys are conducted:

- assess customer needs and satisfaction,
- evaluate the success or failure of organizational interventions or social programs,
- improve organizational or societal functioning by identifying problems which need resolution,
- improve the quality or marketability of products or services,
- understand the incidence and range of social, political, spiritual, or religious attitudes,
- determine how knowledgeable the public is about certain issues,
- identify the incidence of various behaviors, some of which may be disapproved of or illegal,
- measure the recall of or reaction to felt or displayed emotions,
- measure personality,
- anticipate or understand respondent reactions to issues or events,
- evaluate individuals for employment, promotion and other purposes, and
- facilitate grass-roots participation in the political process through "town hall" meetings and public polling.

Surveys are by their nature intrusive. Information about attitudes, beliefs, interests, values, behaviors and background is collected which at the level of the individual may be personal and which at any level may sometimes be controversial. If some of this information were linked to specific individuals, it could put them in jeopardy of harassment, social ostracism, denial of opportunities, and even incarceration. Thus, safeguards must be taken to protect individuals who provide such information from harm.

In the discussion below and in Appendices C, D, and E, I give a detailed account of ethical considerations in interview or survey work. For other detailed accounts applicable to all forms of research with human subjects, see Kimmel (1988) and Sieber (1992). Older interview and survey texts frequently failed to discuss ethical issues. Newer ones usually give some attention to ethics and there is strong agreement that interviews and surveys should be voluntary and privacy should be protected. Thus, what I say in greater detail here is consistent with the recent writings of other survey and interview experts (see Fink & Josecoff, 1985; Fowler, 1993; and Salant & Dillman 1994) and other applied social researchers (Kimmel, 1988; Sieber, 1992).

The Rights Perspective: Facilitating Free Speech by Protecting Privacy and Ensuring Confidentiality

The ethical principles which guide survey data gathering are rooted in two basic human rights: free speech and privacy. More specifically, survey participants have the right to:

- speak freely, without constraint, even if others may not like what they say, and

- remain silent, or if they speak, to set limits on the personal information they divulge, and have what they say as individual information providers remain confidential (unless they consent to disclosure).

Survey professionals should encourage unconstrained speech to gain a thorough understanding of attitudes, beliefs, values and behaviors. When speech becomes so unconstrained, and since surveys are intrusive, the privacy of respondents should be protected and confidentiality should be guaranteed to prevent harm. If information about specific individuals is disclosed, it should be with their consent.

Potential respondents should be given the right **not** to participate. Survey professionals motivate **voluntary** participation by creating a "safe haven" so that most potential respondents will feel comfortable enough to participate. Hopefully, potential participants will want to respond (not just feel comfortable doing so) if the survey developer successfully conveys the importance of the survey and explains the positive outcomes that are likely to accrue.

The rights to free speech and to privacy that are the foundation of the author's ethical perspective have their roots in the amendments to the US Constitution, various state constitutions, and in American common law. The rights perspective, which may only be of interest to some readers, is discussed in Appendix C.

We need not only look to the Constitution, American law, or the rights perspective to find ethical principles to guide survey professionals. Professional ethical codes also provide sound guidance.

Professional Ethics: The Data Gatherer's Responsibility to the Information Provider

Ethical implications for conducting surveys and protecting individual respondents can be drawn from professional guidelines. Survey developers come from diverse professional and technical backgrounds. Most professions, through professional associations, specify ethical principles to guide professional behavior. Ethical guidelines exist for psychologists, social workers, physicians, lawyers and many other professionals. Despite this, there are opinion research associations that provide disclosure rules and codes for ethical conduct. For instance, The National Council on Public Polls and the American Association of Public Opinion Research have such guidelines (Fink & Kosecoff, 1985, p. 51). The ethical principles guiding different professionals are usually similar. The predominant messages are clear. Respect peoples' rights and dignity. Help rather than harm your clients. Protect the privacy of individuals who provide you with information. Keep what they tell you confidential: in all but the rarest situations do not release information about individuals. If you must release such information, do so only after receiving their consent. Confidentiality and preventing harm are such core ethical principles that Kimmel (1988) reports they appear in all American and European ethical codes for psychological research.

Professional ethical guidelines are based in part on two key legal and ethical concepts: **privilege** and **informed consent**. Privilege refers to the (usually) inviolate confidentiality of communications between certain professionals (lawyers, doctors, clerics, mental health professionals) and their clients and the right of testimonial privilege in courts of law. Privilege is a well established principle in the civilian community. However, it is less well recognized in the

Federal Government, including the Department of Defense (DoD), as discussed in the shadowbox below.

The Privacy Act and the Limits of Privacy Protection in Federal Facilities. A Wall Street Journal article by Pollock (1996) raised my consciousness about the limits on privilege in Federal facilities. Pollock described an Air Force mother's unsuccessful attempt to keep the notes of an Air Force psychiatrist about her daughter's alleged rape out of the hands of lawyers for the accused--notes obtained by Air Force investigators against the will of the parties involved. Pollock consulted a Pentagon lawyer for clarification. He explained that the armed forces do not recognize privilege since all medical and mental health records on a base belong to the Government and can be examined by military officers in the performance of their duties. Checking further into this, I obtained an informal document used by medical clinic practitioners at Brooks AFB titled "Legal Issues Affecting Medical Administration" in which it is stated that the "Federal Privacy Act allows access to patient records (without patient consent) by persons in the Department of Defense who have a legitimate duty purpose for the information" including law enforcement officials, trial counsel, commanders, federal investigators and congressional staffers. The text of the Privacy Act of 1974 (Public Law 93-579, United States Code, Title 5, Part 1, Chapter 5, Subchapter II, Section 552a), confirms this. This act can be accessed on the internet and is also included as appendix B in Bushkin & Schaen (1976). Although this act was designed in part to protect people from having records about them disseminated without their consent, it contains many exceptions that make it relatively easy for federal officials to obtain personal information from records in federal facilities without the consent of the person involved. In addition, Air Force Instruction 41-210, Patient Administration Function (Attachment 3: Releasing Medical Information), states that Federal investigative agents are to be granted access to medical records (in an Air Force facility) upon proper identification and can seize records if they leave a copy. Related to this issue, see the comments of McGuire on page 16 about being careful what you write down and disclose if you work in a Federal facility.

Informed consent refers to the necessity of providing clients with an understanding--in language they can easily comprehend--that participation with a practitioner or researcher is voluntary, informing them of the anticipated consequences of participation or nonparticipation and the factors which could reasonably influence their decision, protecting prospective participants from harm if they decline to participate, explaining other aspects about which they may inquire, and letting them know about the limits of privacy, if any. As discussed in the shadowboxes below, there could be conflict between professional associations and the DoD on this issue as well.

Professional ethical guidelines focus most attention on the ethics of the professional's relationship with clients. Although client is often referred to in this text as the person or organization who requested the survey, each survey respondent is also a client. Survey researchers must behave ethically in their relationships with both types of clients.

Like physicians and others, survey professionals protect individual data from disclosure. They do so by protecting the identity of individual participants and by reporting aggregated (grouped) data. If individual data (such as verbatim quotations) are reported, the identity of the information source is withheld unless he or she has given prior consent. However, unlike priests, health professionals and lawyers, survey researchers do not have automatic testimonial privilege in courts of law. Subpoenas can be used to force disclosure of confidential research information.

In 1988, Congress provided relief in a law allowing researchers to seek a certificate of confidentiality to protect their data from a subpoena (Bradburn & Sudman, 1988, p 200; Sieber, 1992, pp. 59-60). As Bradburn and Sudman (1988) and Fowler (1993) indicate, researchers have sent their data abroad to prevent breaches of confidentiality in United States courts. The American Psychological Association (APA) encourages members to familiarize themselves with steps to protect data from disclosure short of noncompliance with the law. The APA has prepared a document on strategies for coping with subpoenas or compelled testimony which is available from their Office of Legal Affairs (American Psychological Association, 1995, 1996).

I am most familiar with the American Psychological Association's **Ethical Principles of Psychologists and Code of Conduct** (American Psychological Association or APA, 1992; hereafter referred to as the Ethics Code). I reviewed these ethical guidelines and an APA book on the Ethics Code (Canter, Bennett, Jones & Nagy, 1994), extracting principles and standards relevant to survey developers. The portion of the Ethics Code pertaining to survey work is included as Appendix D.

Conflict Between the APA Ethics Code and Societal or Organizational Expectations

Ethical principles are sometimes in conflict with the law or with what is expected of people in their organizations. The Ethics Code is somewhat vague on how to deal with conflict with the law, stating that if ethical responsibilities conflict with the law, professionals should make clear their commitment to the Ethics Code and take steps to resolve the conflict in a responsible manner (Ethical Standard 1.02). The precise nature of the action to be taken is not clear, but there is an implied moral superiority of the Ethics Code and the recommendation that the Ethics Code not be violated. In discussing this standard, Canter et al. (1994) state that the standard "does not always require conformity with the law" (p. 33). The professional is also encouraged to exercise free speech and clearly state his or her ethical views. According to Canter et al., this could be in the form of a letter or memo to one's employer or supervisor.

The APA's stand on conflict between the Ethics Code and organizational demands is clearer. If organizational demands conflict with the Ethics Code, the professional is expected to clarify the nature of the conflict, make known his or her commitment to the code, and resolve the conflict **with adherence to the Ethics Code** (Ethical Standard 8.03). In discussing ethical standards 1.02 and 8.03, Canter et al. (1994) indicate that professionals are expected to be proactive in resolving conflicts. They claim that failing to do so is an ethical violation in itself.

Conflict Between the APA Ethics Code and DoD Directives

The APA ethics committee report for 1993 (American Psychological Association, 1994) acknowledges that military psychologists frequently face conflict between the Ethics Code's confidentiality provisions and the DoD's directives to provide information without consent. The ethics committee refers to ethical standards 1.02 and 8.03 (see discussion in the shadowbox above and Appendix D) which acknowledge that conflicts can arise between ethical standards and laws or organizational practices. The ethics committee states that these standards "establish an affirmative duty of the psychologist (or other practitioner) to address the conflict, not just to follow the law or institutional rule without looking for alternatives" (p. 665). They state that if practitioners cannot guarantee confidentiality, clients should be informed of confidentiality

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limits at the beginning of professional contacts. In addition, they recommend that practitioners be proactive in dealing with their organization about their ethical misgivings. For instance, they could discuss their concerns about confidentiality with their commander when they are initially assigned to a clinical position. Canter et al. (1994) acknowledge that individual professionals may have limited power to affect organizational policies and practices. However, if pressured to behave unethically, they recommend professionals make their objections know, explain code requirement, and suggest solutions without placing too much burden on the organization.

In discussing the limits of practitioner-patient confidentiality in the DoD, McGuire (1995/1996) explains that he always responded as a psychologist rather than as a Naval officer. McGuire (p. 4) describes his decision rule as simple: "if the confidential information does not ... directly threaten the welfare of the nation or other members of society, then I maintained confidentiality, including what I chose to put into the official medical record. This is essentially the same rule now supported by the Ethics Code of the APA." He also advises young military clinicians to "know when to just plain shut up!" Recognizing that looking after others is as important as looking after oneself, he goes on to say "The expression 'Don't make waves' doesn't just apply to your personal welfare; it often applies to those servicemen and women and their families who come to you for help and not judgment." Anderson (1995/1996) supports McGuire's position and explains that military personnel cannot be held accountable for failure to report noncriminal conduct that may be reported to them in a clinical interview. He refers to statements about homosexuality and explains that health care providers are not legally accountable for failure to report statements made about sexual orientation or behavior that the military happens to disapprove of. This medical example also applies to military survey or nonclinical interview professionals to whom similar information may be divulged. Of course, it applies to a broader range of issues that just sexual orientation.

Ethical decisions ultimately reside with the individual. You have the right to conscientiously object to institutional or societal practices you consider unethical. If you are sincere and express your objection with logic, determination and politeness, you may suffer no adverse consequences. However, be prepared to accept adverse consequences, and to defend yourself against such actions through peaceful, legal means.

Your Ethical Obligations to Survey Participants

What do ethical concerns mean in practice? What do you do to ensure your survey procedures are ethical? In this section, communicating your ethical sensitivity, ensuring voluntary participation and safeguarding confidentiality are discussed. The issues of limiting excessively intrusive content and eliminating illegal content are also discussed.

Ensure Voluntary Participation: The right to privacy and the right to avoid self incrimination usually give people the right to refuse to be surveyed, or to not answer specific items. Bradburn and Sudman (1988, p. 201) state that all professional survey organizations recognize this right. I strongly recommends that voluntary participation be ensured and coercion be avoided. Only friendly persuasion should be used.

An Air Force Exception and Example of the Benefit of Voluntary Participation. Despite the contention by Bradburn and Sudman (1988) that the principle of voluntary participation is universally recognized, some surveys have been mandatory, and some still are. Also, despite the

author's recommendation, some people will disagree, or perhaps not give the issue much thought.

Generally in the Air Force, survey participation is voluntary, as recommended in this text. However, this is not the case with the job inventories developed by the Air Force Occupational Measurement Squadron (AFOMS). The privacy act statement contained in these inventories indicates that disclosure is mandatory and even threatens punishment under provisions of the Uniform Code of Military Justice (UCMJ) for failure to complete the inventory. In defense of the job inventories and AFOMS, the content is not threatening: respondents are only asked to indicate the tasks they perform in their jobs and estimate how much time they spend on them. These inventories do not appear to contain information that people would be reluctant to provide.

In a recent telephone conversation with a representative of the Quality Office at HQ ACC (Air Combat Command), I mentioned my objection to mandatory surveys. The person at HQ ACC provided practical information to support this position. He indicated that his organization had used a mandatory automated survey but decided to switch to a voluntary one. When the survey became voluntary, they experienced a dramatic decline in the incidence of respondents just holding down the key that allowed them to go mindlessly through the survey without providing useful data.

The automated survey technology developed by the Armstrong Laboratory's Human Resources Directorate and the Institute for Job and Occupational Analysis contains the option of making an item mandatory. That is, the respondent must respond to the item to continue. This option can be used to encourage a response to items the survey developer considers critical for tracking or analysis, such as name or social security number.

I base my prohibition against mandatory participation partly on ethical considerations. However, this position is also based on practical concerns. Requiring people to participate, or placing pressure on them to respond to specific questions, is likely to result in untrustworthy data, or no data. This is especially true if people are asked about engaging in illegal or other disapproved activities. Sieber (1992) cautions that respondents should not be asked directly if they engaged in illegal behavior. If they had, they would be unlikely to answer honestly since they might place themselves in legal jeopardy. It is not only questions about illegal or disparaged activities that could lead to dishonest or distorted responses. If persons are forced to participate and they are uncomfortable with a survey's content, they may give misleading responses. As Sieber (1992, p. 7) says, "...those who cannot refuse to participate have a secret weapon available to them for the protection of their privacy and autonomy--they can lie." Respondents may also provide random or bizarre response patterns without even reading the items. If they take the survey seriously, they may simply skip objectionable content.

As mentioned previously, the practice of ensuring voluntary participation is based on the principle of informed consent. However, participants usually need not sign a consent form, since as Sieber (1992) indicates, respondents can refuse behaviorally. For example, they can hang up the phone, walk out of the room, respond randomly, or throw a survey away. Also, participation under voluntary conditions implies consent. However, Fowler (1993) states that consent forms may be appropriate if participants are asked to provide information, which if misused, could hurt

them. The consent form would provide a record that the participant was informed about the potential for harm and the limits on privacy.

Maintain Confidentiality and Non-Attribution: As Seiber (1992) and Salant and Dillman (1994) point out, there is a distinction between anonymity and confidentiality. Anonymity is best, but cannot always be promised. There is a subtle "can not" versus "will not" distinction. If a survey is anonymous, no information is collected which could link data to individual respondents. Thus, a breach of privacy need not be feared. However, it is the author's experience that many people do not trust that anonymous surveys are, in fact, anonymous. Many people believe survey developers have some trick way to identify them. Perhaps this distrust is understandable because survey researchers often **can** link data back to individual respondents or small groups. They can do so directly via an assigned code or social security number, or indirectly via demographic (background) information. Respondents are often savvy enough to realize you can identify them through background data, and even grouped data can be used to identify them. For instance, during data analysis, you may discover a subgroup's "cell size" is only one or two people. Do not claim that respondents can only be identified through their name, social security number or survey code number. If confidentiality is promised, researchers imply or admit they can tie individuals to responses, but promise they will not. Since some people don't even trust anonymous surveys, it has been my approach to ignore the anonymity/confidentiality distinction and to not argue whether respondents can be identified unless prospective participants bring the issue up. Rather, I stress confidentiality and promise that individual data, except for verbatim comments without attribution, will not be released.

As discussed in Appendix D, survey professionals have an obligation not to harm respondents or diminish their dignity. Improperly protected survey data could do both. For example, in organizational surveys, respondents may express animosity toward or distrust of organizational leaders. This could incur the wrath of these people and retaliation from them. In other surveys, they may report behaviors which some people consider immoral, confess to illegal behaviors, or express social, political or religious views that are not shared by most people. In the wrong hands, such data linked to individuals would be damaging. Survey researchers determine the incidence of attitudes or behaviors in **groups** of individuals. They examine **aggregate** rather than individual data. They use this information to better understand issues, to improve policies and practices and to help people rather than harm them.

If you know of institutional or legal constraints on confidentiality (for instance, company or court directives forcing disclosure in some instances), mention these to participants up front so they can make an informed decision about participation.

The concern about confidentiality is reasonable due to the possible misuse of data and the potential for harm. Confidentiality creates the condition where sensitive information can be shared without threat if respondents trust it will be maintained. To gain respondent cooperation, explain in a cover letter, or in introductory comments, how survey data will be used, how privacy will be safeguarded, and the steps you have taken (or will take) to prevent misuse. Stress that data will be reported to management or other clients only in aggregate form. If your survey is an organizational survey, indicate that individual responses will not be shared with supervisors or anyone else in the chain of command, except individual comments which may be transcribed verbatim. Explain that even when individual comments are shared (for instance, in verbatim quotes), by-name references will be removed except when the reference is obvious, such as to a commander or CEO.

If possible, avoid asking for name or social security number (SSN). If such information must be collected (for instance to conduct longitudinal research or to match data files), assign random codes and substitute them for identifying information in your data file immediately. Share the correspondence between people and codes with as few people on the survey team as possible, and only with those you can trust not to divulge this information. Limit access to your raw data. Stress with team members that individual response data and by-name comment data must not be divulged.

Infrequently, clients may pressure you to reveal the responses of specific individuals. If this happens, refuse such requests without exception.

Certain combinations of demographic (background) data may serve to identify specific individuals through what Seiber (1992) calls "deductive disclosure." For instance, a person may be the only female General Manager-14 of Hispanic heritage in an organizational subunit and the researcher or survey client can deduce who she is from her demographic responses. When you do subgroup analyses, make sure that the responses of individuals are not obvious. You do this by keeping your aggregations large, or by not reporting data in smaller cells.

Confidentiality protection need not only pertain to individuals. As Bradburn and Sudman (1988, p. 202) report, many social scientists believe that the confidentiality protection should extend beyond individuals to organizations. Thus, for instance, data obtained from a specific organization would be combined with data from similar organizations and reported by organization type--say "Ivy League colleges" or "environmental groups." Likewise, data from organizational subunits within a large organization would not be shared with other subunits. Individual subunits may be contrasted, but to avoid counterproductive comparisons by subunit managers or employees, these data may be held at higher management levels. Subunits could also be contrasted with the organization as a whole or with other larger aggregations (e.g. all manufacturing units) rather than with other subunits.

Limit Objectionable or Very Intrusive Items: I recommend that you limit, but not necessarily eliminate, potentially objectionable, threatening, or very intrusive questioning. Such items may be legitimate on some surveys since is it important to study controversial issues to deal with them effectively. Arvey and Sackett (1993) caution that requesting information which invades privacy will be perceived as less fair in a selection situation (e.g., on an application form) than information which is not so invasive. Regardless of the purpose of your survey, your ethical obligation to maintain confidentiality and protect people from harm becomes especially critical when you include very intrusive content.

If you must include such content, ask yourself if you really need to know the information asked. Be sensitive in how you ask for such information. Often, it is wise to ask for it indirectly (see Make Objectionable Items More Acceptable on 55). If such items are included, emphasize your commitment to confidentiality and do not betray that pledge. Do what you can to develop trust. Much like the "there are no right or wrong answers" statement we often see, you can explain in an introductory statement that your intent is not to judge the correctness of expressed attitudes or the morality/legality of reported behaviors. Explain that you are trying to determine the prevalence of attitudes or behaviors and have no interest in linking them to specific individuals for punitive purposes. On a survey, people can easily skip items they consider

objectionable or intrusive. Usually this is not explicitly stated, but discussion of voluntary participation implies it.

<u>Illustrative Examples of Intrusive Content</u>. What topics are particularly threatening? Bradburn, Sudman and associates (1979, p. 68) queried nearly 1200 interview participants indirectly about their uneasiness concerning questions they had just been asked. They did so by phrasing the exit questioning in terms of making "most people" (rather than themselves) feel very uneasy. Their list is illustrative, not exhaustive. At the top of the "very uneasy" list was **masturbation** (56%) followed by **marijuana use** and **sexual intercourse** (42%). A sizable percentage of people were judged to be very uneasy about questions concerning stimulant and depressant drug use and intoxication (31% and 29% respectively). Ten to 13 percent of people were judged to be very uneasy about questions concerning drinking alcohol, gambling with friends and revealing their income. Other leisure time, social and sports activities were hardly threatening. Respondents believed that only 12 to 21 percent of the population would **not be threatened at all** by questions concerning sexual activity, illicit drug use, or intoxication.

Despite feelings of uneasiness, most questions were not too personal for respondents themselves to answer. Interviewees seldom refused to answer even the most threatening questions. Only the sexual questions (intercourse, masturbation) were considered too personal for them, with 34 percent indicating this to be the case. However, only about seven percent of the sample chose not to answer these questions despite the fact the interviewers stressed up front that some questions might make them uneasy and they did not have to answer them. Bradburn, Sudman, and their associates concluded from this disparity that instead of refusing to answer, participants sometimes reported not engaging in threatening activities that they had engaged in. This allowed them to be appear to be good respondents while projecting a socially desirable image.

The apparent willingness of people to answer threatening questions deceptively in an interview brings up the following points of comparison between surveying and interviewing: 1) In face-to-face interviews, more than on surveys, data gatherers know the identity of participants. Since information providers cannot remain anonymous and interviewers can tie responses to respondents, participants may feel more threatened than they would in answering a survey. If they admitted to holding attitudes or engaging in behaviors that the interviewer or others may disapprove of, they could be ostracized or otherwise harmed. Answering deceptively gives the interviewee a benign way to avoid possible negative consequences. 2) It is easy **not** to respond to objectionable or intrusive items on a voluntary, anonymous survey. Respondents are told the survey is voluntary. By implication, individual items are voluntary, and the survey developer is usually not present to disapprove of skipping them. It is more difficult to say no to a persuasive, persistent interviewer. Doing so may be rude or socially inappropriate. At worst, a person could get into trouble or be denied employment or some other opportunity. Thus, an interviewee could experience enormous social pressure to respond. 3) The interview creates a social relationship. The participant may like and want to please the interviewer. He or she may want to be respected by the interviewer. This could result in heightened social desirability bias in an interview--regardless of whether a question is threatening. 4) There is no good, cost effective way to check the veracity of responses to interview questions. Interviewees can, therefore, lie or distort their responses with impunity. Survey respondents can deny attitudes or behaviors also, but would feel less need to do so. Of course, some deceptive responses may be motivated more by denial than by a willful intent to deceive.

A recent examination of threatening content was conducted by Mael, Connerley and Morath (1996). They studied biodata inventory content in a job selection situation to see what would be considered invasive from a privacy standpoint. They found that personnel selection professionals and potential applicants alike considered several lines of questioning to be inappropriate. (They may also be illegal, see Avoid Illegal Questions below.) Questions about sexuality or intimacy, such as age of first sexual activity, frequency of dating or having a miscarriage were considered most invasive, followed by questions about specific denominational religious activities. Also considered intrusive were questions about physical or mental health such as suicide attempts, or to a lesser extent, a heart attack in the family, partly because they may trigger the reoccurrence of trauma. In an expanded second study with students, military personnel and subject matter experts, the investigators found similar results. Politics was an area added to the second study. Asking about membership in a specific party was considered very invasive while having been a political volunteer was less so, but still rather invasive. Other topics considered invasive by many second study participants were father's occupation, being chronically overweight (but not by military), longest stable relationship, and relationship with same sex parent. Mael et al. provide the following suggestions: 1) Avoid asking about personal events outside the workplace or other public arena, especially if they could traumatize or stigmatize the respondent. 2) Replace denomination-specific questions about religion with more general questions about spirituality. 3) Replace questions about political affiliation with more general questions about political involvement. 4) Avoid questions about intimate behavior if they are likely to stigmatize or shame the respondent, or involve contentious topics.

Avoid Illegal Questions: Usually, if there is a legitimate need to include very intrusive content, survey researchers can do so on a limited basis. They can usually elicit accurate information about threatening topics due to their pledge to protect privacy and because their intent is not to limit opportunities or to punish. The ability to include intrusive questions is also facilitated by the anonymity of most surveys and the fact that survey developers usually do not know, or interact directly with, respondents.

Illegal questions are a different story. If they are included, respondents have every right not to respond. As discussed in the shadowbox below, illegal questioning is discussed in the following two contexts: 1) on employment applications or other evaluative surveys where discrimination may result and opportunities may be denied based on responses to certain irrelevant questions, and 2) on any survey, concerning job irrelevant organizational memberships, where First Amendment rights to free speech and assembly may be constrained and where harassment of respondents (or fear of it) may result from knowledge of such affiliations by potentially hostile parties.

Employment Application Form or Other Evaluative Survey. Sometimes the purpose of a survey (or "application form") is to evaluate individuals. In these situations, certain questions or items are illegal, or have to be asked only in certain ways. Laws have been enacted to protect people from discrimination and other untoward outcomes when filling out evaluation applications or being interviewed prior to selection for a job, for leasing or buying property, or for obtaining credit. See Medley (1984) for a list of these laws for California and New York. They are representative of similar laws in other states. Campion and Arvey (1989) also discuss taboo behaviors (subject to litigation) in an interview which may be used in conjunction with the

application. Smart (1983) discusses legal considerations and provides questions that can and cannot be asked.

Alderman and Kennedy (1995, pp. 277-290; see also, Meyers (1992) and Nachman & Ryan, 1994, p. 25) provide an account of one of the first serious challenges to psychological testing for pre-employment screening. (Psychological tests frequently are a form of survey.) The case (Soroka v. Dayton Hudson Corp.), involved a person applying to be an asset protection specialist (guard to prevent shoplifting) for a large national department store. The individual was asked to take a 704-item Psychscreen inventory which contained very personal items (for instance, about sexual matters like "I've never indulged in any unusual sex practices" and religious beliefs like " I believe in the second coming of Christ"). This instrument had been formed by extracting items from other instruments developed decades ago (the Minnesota Multiphasic Personality Inventory or MMPI and the California Personality Inventory or CPI). Many items, especially from the MMPI, were developed to assess psychopathology and were intended to be used for clinical purposes. Soroka considered many items ridiculous and irrelevant to his application for employment. He was so upset he photocopied the instrument to provide evidence of how bad the items were. He then sued the store. The California court of appeals, backed by a strong state constitution with good privacy protection provisions, found the store did not demonstrate a compelling interest or a job-related purpose (the nexus requirement) in asking applicants to respond to these kinds of items. The store settled out of court, and while not admitting liability, it stopped using the test for this type of applicant in California and created a $1,300,000 fund to compensate the plaintiff and other Californians who had taken Psychscreen.

As Alderman and Kennedy (1995) indicate, the psychological exam used was argued to be a medical exam. Soroka and his legal team believed the Americans With Disabilities Act would support this view, providing additional grounds for restricting the use of such instruments to prevent employment discrimination against disabled persons.

Examples of items/questions or behaviors that may be illegal or constrained (depending on jurisdiction) on an evaluation application or in an evaluation interview are:

- age
- ancestry
- arrest record
- birth control usage
- birthplace
- citizenship in a specific country other than United States (e.g., items about naturalization papers or your parents' citizenship)
- disability not related to work
- ethnic group
- family, spouse, children, relatives (e.g. items about specific information about family members or relatives who are not employees of the company)
- gender
- language (e.g., native language or how a foreign language was learned)
- marital status
- mental illness or treatment by a mental health professional
- military experience (outside the United States)
- miscellaneous (anything not related to work or employment eligibility)

- name (original or maiden)
- national origin
- organizational membership (not considered relevant by the applicant to job performance or memberships related to race, religion, national origin, etc.)
- pregnancy; plans to have children
- physical limitations not relevant to work
- race
- religion or religious views
- sexual orientation, views or behaviors
- request for sexual favors

It is also sometimes unlawful to ask questions that would indirectly reveal these facts. In some instances, sensitive questions are unlawful if asked directly. For example, "What is your age" is prohibited. However, it is all right to inquire more broadly, for instance, if a person is "between 18 and 65 years of age." Likewise, you cannot ask about an arrest record, but you can ask about convictions if there is legitimate "business necessity" involved. However a conviction is usually not grounds for being denied employment, unless directly tied to the job or if it would put an employer at considerable risk (Medley, 1984; Smart, 1983).

Organizational Membership. As indicated above, asking for information about job irrelevant organizational memberships may be illegal on evaluation forms such as job applications. Such questioning may also be unlawful on constitutional grounds.

Bond (1994) wrote about two cases demonstrating the legal precedent prohibiting forced disclosure of membership in private groups. These cases involved the First Amendment rights of free speech and assembly. They also pertain to privacy rights (see Shattuck, 1977, Chapter 2, for a discussion of the privacy of association and belief and several other examples). Both cases involved groups protecting their membership lists from disclosure to government entities. The first case involved the National Association for the Advancement of Colored People (NAACP) versus the State of Alabama in 1958. The second case occurred in 1994 and involved the Texas Knights of the Ku Klux Klan versus the Texas Commission on Human Rights. For further discussion of the First Amendment and privacy rights rationale for not asking for job-irrelevant organizational membership, see Appendix E.

Organizational membership lists could be amassed from survey data. Given the legal precedents mentioned and possible harm to people due to intolerance of the associations and beliefs of others (see Appendix E), I recommend that requests for specific information about job-irrelevant organizational affiliations be avoided.

Ethical Implications for Prospective Survey Participants

Ethical implications have been discussed from the perspective of the obligations of survey developers to participants. Focusing now on survey participants, I contend they have the right to decline to participate, completely, or in response to specific items/questions, if they believe any of the following conditions are true:

- The survey is not voluntary: respondents are told they must respond and they desire not to, or other forms of coercion are used, such as the threat of punishment.

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- Insufficient information is given upon which participants could come to a decision based on informed consent.

- The survey is requested as a part of one's job, but some or all content is not job relevant, including questions about job irrelevant organizational memberships or privileged information the respondent desires not to share.

- Privacy may not be protected: the survey is not anonymous, confidentiality may be breached, analysis and reporting of non-narrative data may occur at the level of the individual respondent or at a low level of aggregation which might permit disclosure of identity, or personal identifying information may not be excised from narrative data, except where the identity of a prominent individual (e.g., a CEO or Commander) would be difficult to conceal.

- The requested information may be used to discriminate unfairly against respondents, harass them or harm them in other ways.

- The items or questions are needlessly intrusive, or they are too offensive.

Chapter 5

Selecting a Sample
And Arranging for Distribution and Return

Random Sampling Versus a Census

Sampling is a complex, technical issue that can lead to misleading findings if not done well. Sampling is briefly covered here. For more detail, consult Sudman (1983). The discussions of sampling by Bradburn and Sudman (1988) and Salant and Dillman (1994) are also recommended. They are practical and easy-to-read.

Surveying only to a portion of the population is called **sampling**. If you survey the entire population of interest, you have a **census**. Unless your population is small, you will likely need a sample rather than a census. The incremental statistical benefit of gaining more subjects falls off as your sample gets large. Much more so than interviews, surveys are well suited to sampling large populations

Sometimes a census is taken, even with large populations, for political rather than statistical reasons. People like to be consulted on important issues which impact them. If they are left out, they may be annoyed. Thus, sometimes the decision is made to go to an entire population so everyone can express themselves. With survey automation this is more and more feasible. For instance, the AF Surgeon General decided that the **OMG Survey** should go to nearly everyone in the Air Force Medical Service. This included personnel working outside medical facilities since implementation of the OMG structure was a hot issue that most people in the medical service were expected to have strong opinions about. If you contemplate surveying an entire population, consider whether it is worth the cost. Also ask yourself if the issue is one about which most people would want to provide input. People lament being "surveyed to death." Thus, also consider if your target population was surveyed about other issues in the recent past. Adjust your schedule, or, if necessary, your sampling strategy.

The **representativeness** of a sample is critical. Representativeness means that your sample adequately reflects or represents the target population of interest. Several means are used to achieve a representative sample. For instance, you may make sure your survey is random so that everyone has an equal chance of inclusion. You may first stratify your sample and then select randomly within the strata. Sometimes a random sample may not be appropriate. You may want your sample to be more targeted. For instance, maybe you know there is little variance in your sample on a particular measure. An example is performance ratings, a common criterion variable despite often being inflated. To correct for this problem, you might intentionally select people whose scores differ on this performance measure. As discussed below, you may also choose purposeful sampling rather than random sampling.

Sometimes, representativeness is violated. For instance, professors sometimes have limited access to funds and to diverse groups of people to serve as subjects. However, they have a captive population of students who tend to be young, Caucasian, and middle to upper class. So professors tend to use these subjects extensively in their research and probably get results of limited generalizability. Also, the responses provided may be distorted due to the status imbalance between students and professors and the fact that the students are known to the investigator.

As another example, the **Literary Digest** incorrectly predicted a Landon victory over Roosevelt for president in 1936 (Fishkin, 1995; Salant & Dillman, 1994; Dillman, 1978). This prediction was based on a huge, unscientific sample of people who had either telephones or cars. In those days only about 35% of the population had phones. Cars were also less common than today. People with these items tended to be affluent. Less affluent people, who were more likely to vote for Roosevelt, were left out of the sample. Fishkin (1995) provides a detailed account of this debacle. Interestingly, the magazine based its tabulation on millions of postcards solicited from the biased sample described. During this period, George Gallup gained national recognition by challenging the **Literary Digest.** He publicly predicted the magazine would be way off the mark in their estimate. Promising to give his newspaper clients their money back if he failed, he demonstrated he could predict the election outcome much more accurately using a scientifically selected sample of only a few thousand people. Gallup accurately predicted Roosevelt's victory and the success of his firm is history. **The Literary Digest** went out of business.

In a recent telephone example (U.S. News and World Report, 1995), people were reported to use their answering machines to screen pollsters, just like they would undesirable callers. This could make obtaining a representative sample via phone difficult.

Another example where representativeness is routinely ignored is in the popular use of self-selected listener opinion polls (see Fiskin 1995, pp. 38-39). Here, radio or television audiences are asked to call in to express their agreement or disagreement with a question presented to them, or to provide their reaction to an event. In such unscientific polls, participant reactions would likely be unrepresentative of those of the general population.

As mentioned above, a way to obtain a representative sample is to generate a **random sample**. In a random sample each element (usually a person) in the population is independent and everyone has an equal chance of being selected. Having a random sample would, for instance, ensure that everyone exposed to an intervention had an equal chance to provide you with feedback on it, rather than the survey going only to those most likely to favor it. Random sampling is appropriate when the investigator wishes to generalize from a sample to a population. If you want to ensure that different parts of the population are well represented you can use stratified sampling where the population is divided into parts and the sample is drawn randomly from each of these "stratum." See also the discussion of purposeful sampling below.

Your response rate may be low. When high quality paper-and-pencil surveys are used, it has been the author's experience that only about 50% to 70% of the sample respond. Thus, you should survey at least twice as many people than needed for analysis purposes. Some subgroups may be especially underrepresented due to their small size in the population and response rate problems. One solution is **intentional oversampling** of selected groups such as minorities and women. Although the situation is improving, women have historically been underrepresented in positions of senior leadership (Kanter, 1977). Therefore, if you wish to examine women in senior positions, you may need to select all women in such positions.

The goal of representativeness was described above in terms of selecting a representative sample at a single point in time. As Fishkin (1995, p. 4) reminds us, if you want to accurately represent opinions, a single snapshot in time may not provide the best view. Although some constructs are likely to be rather consistent over time (for example, interests, values and

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personality), others may be rather transitory (for example, satisfaction with supervision or perceptions of other organizational climate dimensions). Moreover, some constructs (for example, opinions about political office holders or candidates) may fluctuate widely over a short time. Thus, to achieve a representative view and monitor trends, you may want to gather data from a representative sample on **multiple occasions**. Surveying in this manner, using the same or different subjects each time, is called **longitudinal research**. Such research can be accomplished with interviews or surveys, but is especially easy when automated techniques are used. Sometimes longitudinal data gathering takes place over a brief time, say, a few days before an after a special event or an election. At other times the interval is several months to several years, for example when measuring retention intent or quality progress.

Purposeful Sampling

Patton (1980, pp. 100-106) contrasts a variety of forms of **purposeful sampling**, which are intentionally not random. This form of sampling is appropriate when the investigator's purpose is to understand select cases without generalizing to all cases. Here "case" may be an intervention or program at a particular site. A program may have been instituted nationwide. You may know it is working well at most locations. However, at a few sites it is disastrous. Rather than choosing a random sample, you could select a purposeful sample and go to selected sites for intensive study.

There are multiple forms of purposeful sampling. Patton describes the option of **studying extreme cases**--one or more of the best and the worst of them. They do not even have to be randomly selected from the best and worst sites. They can be the ones you are likely to learn the most from. Another approach he describes is studying the **typical case**, especially if limited resources prevent getting information from enough sites to make generalizations. Instead, you get in-depth information from a few typical programs. Another strategy he describes is **maximum variation sampling**, referring to individuals within a site, or sites within a region. For example, programs could be spread throughout a state in urban, suburban and rural locations. The interviewer may not have enough funds to gather a truly random, representative sample of sites. However, he or she could increase the variation or diversity in the sample. Likewise, people at a site who have been identified by staff to have had quite different experiences with an intervention could be selected to be interviewed or surveyed. This would allow the investigator to better understand variations in the program and the experiences of different people affected by it.

Size

Sample size is an important consideration, as is the diversity of the sample. With regard to diversity (see the discussion of representativeness on 25), care should be taken to ensure that the full variability of attitudes, beliefs or behaviors of interest is represented in the sample, usually by selecting a wide array of different types of people. This goal is more easily achieved if the sample is large. Regarding size, survey researchers are usually able, for practical reasons, to have access to more people than interviews. If you are only going to perform total-sample analyses and not divide your sample into subgroups for further analyses, you can get by with fewer subjects. Likewise, fewer subjects would be acceptable if you only wish to compute simple descriptive statistics without performing inferential analyses.

At the Armstrong Laboratory, scientists often want to perform complex inferential analyses on entire samples as well as subgroups. They usually have the advantage of being able to obtain large samples. Thus, some of the author's colleagues are uncomfortable with fewer than 200-300 people in each analysis subgroup. Most investigators do not have this opportunity. Sudman (1983) recommends at least 100 cases in major subgroups and at least 20-50 cases in smaller subunits. In consulting applications, the author's experience is that you take steps to oversample small groups. If subgroups are much too small (say fewer than ten cases) do not report these results if doing so would pose confidentiality problems. However, if your small group comprises the entire population of a subunit being studied, you would be confident about your findings since you would no longer be dealing with a sample and you would not be making inferences. But there is another problem: as you perform more multiway analyses, your chances of having cells with extremely small (thus, person-identifiable) frequencies increases dramatically. In a recent survey analysis, my colleagues and I decided not to share output of a four-way distribution (organization by job group by grade range by item response) with our client because individuals could have been identified due to small frequencies in some cells.

Salant and Dillman (1994, p. 55) provide a useful table for determining the sample size to use at different levels of sampling error and population size. For example, If you required only + or - 3% error at a 95% confidence level, a sample size of 516 is recommended if your population is 1,000 and you use a rather conservative estimate of variability (50/50 split). Assuming the same variability, a sample size of 964 would be needed if your population is 10,000. If your population is 25,000 to 100,000,000 you need a sample of between 1,023 and 1,067 people. For very large populations about the same sample size would be needed regardless of population size. Keep in mind that the probable (but often unknown) variance in the population on the characteristics being measured is an important consideration in determining sample size. The larger the variance the greater the need for a large sample. Be aware, as was recently pointed out in an article critical of polls (telephone surveys), if your sample is not truly random, your desired margin of error for full sample or subsample analyses may not be satisfied (U.S. News and World Report, 1995).

Mailout Guidance for Paper-and-Pencil Surveys

Once you have identified your sample, arrange for the distribution and return of your surveys. You may only have to distribute a small number of surveys to people employed locally at a particular facility, returning them through your base's or your company's mail distribution system. However, the process is usually more cumbersome. You may have to mail surveys individually to organizational addresses throughout the world, or in bulk to points of contact (POCs). These POCs then distribute surveys to respondents at their work sites or serve as group survey administrators. Sometimes POCs also motivate participants and collect and return surveys (or scan sheets and comments pages). Sometimes they even check to see if sheets are ready for scanning. However, the practice of having survey materials examined or returned through POCs could be a threat to confidentiality. You may also not want POCs to see the content of comments pages before you do, since you have not had a chance to excise personal identifying information. If you do not have POCs, or you do not want them to return survey materials, have participants send their responses directly back to you, typically through the mail. You should include an address labeled return envelope. Even if you have POCs collect and return responses and take steps to safeguard confidentiality, allow respondents to return their materials directly to you. They can do this if they remain fearful about the possible lack of confidentiality.

If you use a survey POC, consider having the POC arrange for group administration at a central location. This approach usually increases response rate. However, some respondents may consider group administration a means of forcing participation. Let those who wish to leave do so. Encourage your POC to select a good location and specify the desired characteristics of the administration site. Since survey developers often have limited control over where surveys are administered, locations may be cramped, not private, too noisy, too hot or cold, etc. Sometimes people are handed a survey or scan sheet with nothing suitable to write on. For example, auditoriums without tables or even pop-up desks are sometimes used. This is **not recommended**. A conference room, a school room, a club facility or a cafeteria with good tables and comfortable surroundings is better. Guidance for group survey administrators is provided in Appendix F.

If you request the assistance of POCs, keep in mind this may be an extra duty that may displease them. Try to secure their cooperation ahead of time and work with them to minimize the burden your survey places upon them and their staffs. If you provide POCs with specific guidance on who should receive the surveys (rather than letting them identify subjects) give them sufficient information to easily identify the persons and their organizational locations. Names and organizational symbols may not be sufficient.

Direct mailing of surveys via regular mail to each individual respondent at their organizational address is often recommended. This allows the investigator to maintain more control over who the specific recipients of the survey will be without having to rely on others to follow the sampling plan, or to select for themselves who the recipients will be. Respondents could complete the survey on company time and return it directly to the survey developer without an intermediary who may threaten their sense of confidentiality. You would, however, have to be careful about getting accurate organizational addresses and go through the labor-intensive, tedious process of stuffing envelopes with surveys and self-addressed (preferably stamped or postage free) return envelopes. You may also have to include a separate cover letter and optical scan sheet if they are not a part of your survey. Upon return, you would begin another tedious process of opening envelopes, and removing surveys, comments pages and answer sheets.

Guidance for Automated and Telephone Surveys

When using automated surveys, make sure you have accurate e-mail addresses if you distribute your survey that way. You could also ship disks to POCs around the world and have them distribute disks to the sample (or census). Respondents could either send back the disks directly in a labeled mailer you provide, or return them to the POCs. If POCs are part of the return loop, take steps to safeguard confidentiality. For instance, self-generated passwords could be included with encryption of responses. Sometimes multiple respondents may be able to provide their responses on a single disk. This may represent a threat to confidentiality and veracity since computer literate colleagues may be able to find and change the responses of others.

After preparing your automated survey, make sure it works on everyone's local or wide area network, not just on yours, if you distribute it that way. If you use disks, make sure they are compatible with participants' equipment, and make sure respondents know how to access and

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exit the software and return data they provide. Make sure that any branching capability works for the subpopulations for which it was intended.

Disks will likely need to be duplicated in large numbers and this task can be contracted. The contractor can label the duplicated disks with the survey title, organizational identification and brief instructions on how to enter the survey. Additional instructions can be included within the survey itself. The contractor can also package and ship the disks for you, with instructions to POCs and paper copies of the cover letter for each respondent. They can also include labeled return mailers to protect the disks should respondents be more comfortable sending the disks to you directly rather than returning them to the POC on site. The contractor can create survey packets which neatly contain the survey and cover letter inserted in the return mailer. This makes the task of distributing the materials easier. Of course, you can also contract for data tape creation and analyses if you wish. A brief Statement of Work for disk duplication and distribution is provided as Appendix G. An example of general instructions for POCs is included as Appendix H.

If you are using an automated survey, viruses can be a problem. This is not as critical if only one person records responses on a single disk. However, all electronic files should be checked for viruses before they are distributed, at the administration site and after they are returned. The potential virus problem can be greater if several people provide responses on the same disk because the virus could wipe out the responses of these participants at once. The more computer systems involved, the greater the chance of being infected with a virus. Viruses are less of a problem on networks because they usually include software to check for them. If you contract to have your disks duplicated, virus checking is typically part of the service. In a recent field test of the Armstrong Laboratory's automated survey technology, approximately one percent of returned disks had viruses and about half of these were from a single site.

Companies with a computer-assisted telephone interviewing (CATI) capability usually have elaborate ways for identifying respondent phone numbers and using the cheapest available carrier to call them. They will sometimes alert people ahead of time with a post card and will even provide a 1-800 number for respondents to call back at a convenient time.

With automated surveys, you can track who did and did not respond. This enhances your ability to follow up with nonrespondents and to assess response bias.

Timing

The timing of your survey is an issue to consider. You may wish to survey only one time, or you may need multiple administrations to perform longitudinal analyses. With multiple administrations, you can detect change and monitor trends over time. Note Fishkin's (1995) comment earlier (page 26) about doing a better job of representing opinions if you take multiple "snapshots" in time. Consider if the attitudes or other attributes you wish to measure are likely to be stable over time. If this is likely, you may gain little from multiple administrations. If they are likely to be unstable, multiple "waves" of survey administration and analysis would be beneficial. Facets of personality, core values, and political ideology tend to be relatively stable. General attitudes, say about work, can be enduring or fluctuating depending on the facet focused upon. For instance, you may be quite satisfied with your work over a long period, but your attitude toward your supervisor may fluctuate based on his or her treatment of and support for

you. Attitudes toward specific political figures and about world events tend to fluctuate. For better or worse, it is little wonder why politicians have become so concerned about their "approval ratings" in the polls.

If you perform a program evaluation or intervene to improve a situation based on initial survey results, you will want to collect data before and after to determine if desired changes in attitudes, behaviors or other factors took place.

To prevent surveying your target population too much, consider if it just received another survey. Also, consider if responding to the other survey may influence responses to your survey and space yours accordingly. If you need multiple survey administrations, spread them out if you use a paper-and-pencil format. For instance, monitor quality progress once or twice a year at the most. If you survey multiple times over short intervals--to study reaction to fast-changing events--use automated procedures.

Be aware that when a survey is administered may influence the results. People are often surveyed after a critical event (say a catastrophe). Especially if it was a senseless, cruel or avoidable catastrophe, like an act of terrorism, attitudes toward the event may be particularly strong and inflexible at first and the intensity of emotions may be temporarily elevated. Therefore, to get a more accurate assessment of attitudes and emotions related to the event, and their changes over time, it is wise to also measure these constructs at multiple points in time--weeks, months and even years later.

Chapter 6

Some Initial Decisions on Survey Format

Select Your Type of Survey

You need to decide upon the type of survey you wish to use. Do you want a paper-and-pencil survey or an automated survey? If you selected an automated approach, will it involve a skilled interviewer as in Computer Assisted Telephone Interviewing (CATI)? If you select a telephone survey, will a paper-and-pencil survey administered over the phone suffice, or do you need CATI? See Chapter 2 for guidance to aid your decision.

Decide if You Need Optical Scanning

If you use a paper-and-pencil survey, decide if respondents are to provide responses on a separate or embedded form which can be scanned, or if they can just write or mark their responses on a nonscannable survey. Sometimes separate scan sheets are used. Sometimes the survey booklets themselves are scannable. If a paper-and-pencil format is used, surveys with an embedded scanning capability are preferred to ones with separate optical scan sheets. It is cumbersome for respondents to constantly shift back and forth between the survey and an optical scan sheet, having to find, each time, the appropriate item number and response oval. But having the scanning built in may be costly or time consuming. If the number of items and sample size are small, marking in a nonscannable survey may be acceptable. This would require later transcription of responses to a data sheet or electronic file. If you use a separate op-scan sheet and have a comments section, have respondents tear out the comments page and return it with the op-scan sheet. Also, if you use a separate general purpose scan sheet, make sure your items don't have more response options than there are ovals (or whatever) on the scan sheet for each particular item. The number of marking places varies from place to place on some commercially available general-purpose scan sheets and this simple concern can be overlooked. Also, make sure that the scan sheet you use can be scanned on your machine or one available to you. If you allow multiple responses to some items, make sure your scanner can handle this.

> If you use automated survey technology or Computer-Assisted Telephone Interviewing (CATI) you can avoid the need for optical scanning or transcribing of your data by creating an electronic data base as you survey. In CATI, you can even do real-time data veracity checks as the person is being surveyed.

Reduce Reading Difficulty and Eliminate Language Barriers

Early in the survey development process consider the range of reading ability in your target population and tailor your survey to the lowest reading level. In many instances, you cannot expect your target population to read as well as you do. You don't need to give reading tests. If you are developing an organizational survey, talk to managers or personnel specialists about reading-level requirements for employment and about the general workforce literacy. For surveys in other settings, talk to knowledgeable people (such as community leaders) about the literacy and educational attainment of those to be surveyed. Do so in a way that is not condescending.

Reading ability may not be your only concern. Do you have people in your target population for whom English is a second language? Can they perhaps speak only a little English and hardly read it at all? If so, you will have to go a step further and develop one or more foreign language versions of your survey if the number of people who fall into this category is large. If the number is small, you could have a translator assist them instead.

If you translate a survey, have it done by people who are fluent in both English and the language into which the survey is translated. Have other knowledgeable people review the translation to make sure wording, grammar and spelling are accurate.

If you make a foreign language survey available to some members of your target population or if you provide a translator, do this with sensitivity to the feelings of those involved. Respondents should not be humiliated or embarrassed.

Select the Background Information You Need

You will probably want demographic information. Demographics are background data such as age, income, education, etc., that are used to summarize the composition of a population. This may include name and social security number (SSN). As discussed on page 19, avoid asking for name and SSN, if possible. Protect this information from disclosure if you do collect it. Although this is not an exhaustive list, other commonly requested demographic data are:

- Age
- Base, company, continental United States (CONUS) or overseas location
- Education (years, highest degree, high school graduate, GED, or certification)
- Ethnic or racial group
- Family members (number)
- Grade or rank
- Gender (a preferred term to sex)
- Income (individual or household; corporate profit)
- Industry (manufacturing, telecommunications, utilities, etc.)
- Major Command (MAJCOM)
- Management or staff position
- Marital status
- Military or civilian status; enlisted or officer
- Occupation, profession, or technical specialty (job series or Air Force Specialty Code)
- Position (more specific than just management versus staff)
- Product or service type
- Retention intent (willingness to stay with the organization)
- Separation or retirement date (anticipated)
- Tenure, usually in years (federal, Air Force, organizational, career field job, etc.)

Some demographic information may be considered too intrusive or objectionable and may be withheld. Respondents may object to indicating their race or ethnicity having experienced bigotry from others. They may feel their marital status or income (see Make Objectionable Items More Acceptable on page 55) is none of your business. Asking for these data may be restricted by law in situations such as personnel selection (see Avoid Illegal Questions on page 21).

Sometimes you need not ask for demographic information since it can be obtained from personnel files or other sources. This will shorten your survey; however, make sure you have the identifying information necessary to retrieve these data.

Demographic data are usually collected for the purpose of performing subgroup analyses. The attitudes, values, behaviors and experiences of people in different demographic groups usually differ. These differences would be obscured if only total group analyses were performed. Demographic data also function as predictor (independent) or criterion (dependent) variables in theoretical models which survey researchers sometimes test empirically.

Divide Your Survey into Parts

Surveys often have multiple parts. For instance background (demographic) information could be in one section and attitudes toward whatever you are studying could be in another. A comment section at the end of your survey is recommended. In the **USAF Medical Service Objective Medical Group (OMG) Survey** the following parts were included:

- Part 1. Background Information
- Part 2. Views About OMG and Its Implementation
- Part 3. Views About the Future of the Group Staff
- Part 4. Personal Satisfaction Since OMG Implementation
- Part 5. Views About the Location of Specific Functions or Services
- Part 6. General Comments

On the **OMG Survey**, branching was used. Branching refers to automatically going to a particular question, group of questions, or section based on demographic information or how a person responds to specific attitudinal or behavioral items. Branching is easiest to accomplish on automated surveys or computer assisted telephone interviews. For example, in the automated **OMG Survey**, some items were only for senior leaders. The survey automatically presented these items to only senior leaders in a manner that was transparent to all respondents.

You could do something similar on a paper-and-pencil survey by having such questions at the end and instructing those who are not senior leaders to go on to the comments section. Clustering items for a specific subgroup was employed on the paper-and-pencil **San Antonio Air Logistics Center Career Planning Survey**. Here, items were placed together at the end of the survey which only retirement eligible people were asked to respond to. Others were asked to go on to the comments page. Such clusters are intentionally placed at the **end** of a paper-and-pencil survey, especially if a separate optical scan sheet is used. If you use a separate scan sheet, do not ask respondents to skip items; they could lose their place.

When you divide your survey into parts, this division should be intentionally general in nature. Dividing surveys into sections on the basis of the constructs or themes being measured (for instance, clustering all items measuring a single construct like "communication flow" or "job satisfaction" together and then labeling these small clusters) is **not recommended**. You may want to cluster some similar items together for contrast effect if they are nearly identical. But you need not place all items measuring similar themes together. Instead, intentionally intersperse such items with others throughout the survey. Why is this approach recommended?

As much as possible, survey participants should respond to the specific item before them rather than to some general impression of the theme it may be partly measuring. If like items (thought to tap a single construct) are together, their co-location may influence how a person responds by conveying an implicit idea of what your theme may be. Placing headings in the survey identifying each construct measured heightens this problem by explicitly identifying each theme.

The interspersing of items of similar content throughout the survey also provides a veracity check. If items measuring similar themes are dispersed, respondents will be less aware of how they responded to similar items previously. If responses to these dispersed items are consistent, respondents are probably taking the survey seriously and responding in a way which reflects how they really think or feel.

Often items are clustered on the basis of the scale used. For instance, you may cluster your agreement scale items together and then cluster items measuring different facets of satisfaction together using a satisfaction scale. This reduces the distraction and cognitive processing needed to mentally shift frequently from one scale to another, making the survey easier and less time consuming to complete.

Chapter 7

Item Construction

Item Stems and Responses

There are two parts of an item: its stem and its response options. Some items use no predetermined response options at all; the response is filled in by the respondent. Some items use a unique set of response options designed specifically for the item and others use standard scales common to several items. For an extensive treatment of item form, wording and content, see Schuman and Presser (1981).

For ease of interpretation and analysis, survey developers usually provide items composed of stems (the actual item) and a set of exhaustive options from which respondents select the best or most appropriate response. These are called "objective" response options because they are not subjectively formulated by respondents. Rather, all survey participants get to choose from the same set of fixed response options for an objective comparison across subjects. This has the advantage of providing survey developers with easy aggregation and statistical manipulation. They can perform quantitative rather than qualitative analyses.

Objective items also have disadvantages. They force participants to respond in words, phrases, and categories selected by the survey developer. These words or categories may not fit the respondent's situation exactly. Thus, distortion may be introduced. Another form of response is the open-ended narrative. It is a subjective form of responding which can be time consuming and difficult to analyze. But it allows people to respond in their own words.

Items with Narrative Responses

It is not always possible, convenient, or even desirable to get the information you need solely from objective items. Short narrative items are often included. Sometimes respondents provide an objective response to an item and a narrative comment about it. Narrative responses or comments are "subjective" because they are in the respondent's own words. Here, the respondents may complete a sentence. Alternatively, they may fill in letters or numbers to designate, for example, grade, rank or job specialty code. They may also provide a verbal statement ranging from a word or phrase to several paragraphs. If you request narrative responses, keep most short (a phrase to a few sentences) by limiting writing space since they are time consuming to provide and difficult to analyze. Also allow respondents to provide longer narratives, for instance in a final comments page or at the end of selected sections of your survey. For general comments, provide a page of unobstructed space. I have received general comments ranging from a few words to carefully crafted letters several pages in length. Sometimes these comments pages are signed with an accompanying phone number or e-mail address, and the survey developer or client who commissioned the survey is requested to contact the respondent to discuss issues further.

Items with Item-Specific Response Options

The response options which the survey developer provides are objective response options. These are in contrast to subjective narrative responses provided by respondents, as

discussed above. Some objective response options are common across items; others, discussed here, are specific to an item.

Before item-specific response options are discussed, let's clarify what a stem is. An item stem is the actual statement or question to which the respondent is asked to select or provide a response. For instance:

> I have to rely on the grapevine (rumors) to get information on important work-related matters.

or, of an entirely different type,

> When stationed at Los Angeles Air Force Base, which of the following services provided by the Family Support Center have you used? (Select all services you have used.)

are both item stems. The first uses a standard agreement scale (discussed in the next section), whereas the second uses the item-specific response options below:

> A. Information and referral
> B. Spouse employment
> C. Relocation support
> D. Air Force Aid (financial assistance)
> E. Family Life Education
> F. Family Services (loan of household goods)
> G. Single Parent Support Group
> H. Not applicable, I have not used these Family Support Center services

Note that a "Not applicable" option is included to make the options exhaustive. It is listed last because respondents should typically read the options before coming to a not applicable conclusion about use of services. However, one could argue that this option should be placed first if the survey developer was confident respondents would know immediately whether they did or did not use such facilities. Putting the escape option first reduces response time and cognitive processing demands. Such a response, called an "escape option," is discussed more fully below.

Another example of a stem with item-specific response options is:

> If you have been planning to leave the Air Force, how seriously did you look for another full-time job during the past year?
>
> A. Not applicable; I plan to stay in the Air Force.
> B. I did not look at all
> C. I looked, but not seriously
> D. I looked seriously
> E. I looked very seriously

Note that in this example, the "Not applicable" option is put first since respondents would not have to review other options before knowing their inapplicability. Respondents would know

immediately if they intended to stay in the Air Force. Note also that for brevity, response options were truncated by excluding the phrase "for another job" in each option. The phrase "for another full-time job" in the stem suffices.

Items with Common Response Scales

I have a preference for Likert scales (Likert, 1932), named after Rensis Likert, a survey pioneer. This type of scale is discussed below. Likert scales are popular, having been used extensively for decades. They are also easy to construct. There are other types of scales, such as Guttman scales and Thurstone scales. For a discussion of these and other types of scales, see DeVellis (1991), Anderson, Basilevsky and Hum (1983), Edwards, (1983), or Chapter 15 of Nunnally (1978). For a detailed historical presentation of scaling techniques, see Maranell (1974). Guttman and Thurstone scales are difficult to construct and not the method of choice for the measurement of attitudes (Nunnally, 1978). Although once widely used in psychology and sociology, especially in the 1930's and 1940s, they are rarely used today (Anderson, Basilevsky and Hum, 1983; Nunnally, 1978). They have limited applicability and their disadvantages appear to outweigh their advantages (DeVellis, 1991). Thus, they are not discussed further here. The semantic differential (Snider & Osgood, 1969; Nunnally, 1978) is another approach to scaling which is still frequently used and easy to construct. It is briefly discussed here as an alternative format.

You may sometimes want to use multiple scales with the same set of item stems. The importance versus satisfaction distinction is frequently studied since satisfaction with facets of a work environment or product that are not very important are less critical to deal with than facets which are perceived to be very important. Thus, you may want to ask how satisfied respondents are with facets of whatever is being investigated and then ask how important these facets are to them. You may also want to contrast how things were in the past with how they are now, or how they are now with how they should be or are anticipated to be in the future. In these instances, you would use the same or very similar items modified, if necessary, to conform to the wording of the different scales. The common items could be presented with the multiple scales simultaneously or sequentially. Sequential presentation is usually preferred since respondents are less easily influenced by their response to the previous scale. However, presenting multiple scales simultaneously reduces the length of the survey. Also, you may want respondents to make a conscious comparison and simultaneously assess satisfaction and importance of various facets of the workplace. Alternatively, respondents could be asked to simultaneously compare how their work environment was in the past with how it is in the present and how they anticipate it will be in the future. A marketing firm may want potential customers to contrast the features they have on their present car with those they would like to have on a new car. Judicious use of multiple scales with the same or similar items is acceptable, but don't overdo it. Such scales add length and complexity and may reduce the willingness of respondents to complete your survey.

A Recommended Likert Scale Format: Sometimes you will need to write items with their own unique set of response options. However, it is recommended that you use a common scale for multiple items as much as possible. Using a common scale makes taking a survey easier and faster and requires less arduous cognitive processing. Consider using the popular Likert format. Likert scales are simple to use and "verbally anchor" each scale point. This means that a verbal statement is provided for each response choice, such as "Agree" or "Strongly Agree," allowing the researcher to report specifically the meaning of each response selected.

When a paper-and-pencil survey is used, I recommend portraying a Likert scale graphically along a response scale continuum if the scale is to be used for responses to several items. An example of such a scale, with lead-in statement, is provided below.

Example of the Author's Recommended Likert Scale

Use the scale below to indicate your agreement or disagreement with each of the following statements. If you don't know, or a statement is not applicable to you, mark response "G."

A	B	C	D	E	F	G
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	Don't Know or Not Applicable

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This example uses a common agreement scale. Satisfaction scales are also quite common. Examples of other Likert scales are provided in Appendix G. On paper-and-pencil surveys, the response scale should always be in sight. Therefore, repeat it, with lead-in, at the top of a new page. If a respondent sees two pages at once and the scale is clearly visible on the page to the left, it need not be repeated on the right. Do not overdo the number of different scales you use on a survey. Also, do not expect respondents to constantly shift back and forth among scales. This would be confusing and place an unnecessary cognitive processing burden on them. Select one or a few scales and cluster items using a particular scale together.

On a paper-and-pencil survey, respondents typically fill in or bubble in a response corresponding to the letter or number associated with the verbally anchored response point they select. I have shown A through G letters because they are common on optical scan sheets. But numbers can also be used. If a researcher desires only to tabulate frequencies and percents of people responding to different response options, there would be no need to convert letters to numbers. But usually descriptive or inferential statistics are desired which involve numerical calculations. In such instances the letters are converted to numbers so responses can be analyzed. Typically what would be considered by whomever commissioned your survey to be the most desirable response is assigned the highest number. Thus in the scale shown above, typically $A = 1$, $B = 2$, $C = 3$, $D = 4$, $E = 5$ and $F = 6$, except in cases where reverse scoring is appropriate such as when more of something (like strong agreement) is not desirable from the perspective of your customer. This would be the case for negatively worded items and is discussed more fully in the section on Quantitative Descriptive Analyses and Results Reporting, page 70.

Automated Survey Presentation of a Likert Scale. On automated surveys, items are usually presented alone on the screen, rather than clustered with other items on a page. Therefore, the Likert scale is typically presented with each item stem as discrete response options. The presentation is not usually graphic. That is, a line is not used to represent the response scale continuum like in the example presented above. Also, an alphabetic or numeric designation is not needed for each response. Automated survey response options can be placed vertically or horizontally. Some software packages allow you to start the cursor at any point along the scale. It can even go to a particular point at or near the midpoint of the scale with arrows pointing in each direction along with a message to select a response. This would lessen

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the possible concern that always starting at one end of the scale may bias responding by encouraging respondents to choose options in that part of the scale. For example, some people have contended that starting with the most negative response option leads to responses that are more negative (see Response Scale Directionality below).

Inclusion of an Escape Option: Notice that in the example on page 39 a "Don't Know or Not Applicable" option is included as response "G." This option, or something like it, is called an "escape option" and is almost always included. When such a response is present in a graphic depiction of a Likert scale, I recommend that the response scale continuum not be extended to this response. This is because this escape option response is not part of the scale. Sometimes (for instance, with satisfaction items) I use just the "Not Applicable" statement since people should know their personal satisfaction with facets of the workplace. Let's consider one of the author's "lessons learned." On the **Physician Leadership Survey** developed for the AF Surgeon General, I intentionally left off an escape option on very general items concerning physician leadership using an agreement scale and on items using importance and willingness scales, reasoning that the escape option didn't make sense in these situations. To my surprise, physician respondents continued to select the escape option by marking "G" on their answer sheet, even though it did not exist for these items on the survey. Apparently, they had gotten used to it on earlier items, wanted it, and continued to use it.

In some situations, a "No Opinion" escape option may be appropriate, especially with statements of political attitudes. Instead of including a "No Opinion" response option, an alternative approach would be to tell respondents in a lead-in statement to respond only to items about which they have an opinion. This was done on several measures presented by Robinson, Rusk and Head (1973). A potential drawback is they may not read the lead-in or they may lose their place if using a separate optical scan sheet. Having participants only respond to items about which they have an opinion may be a way to avoid the question of whether or not to use a neutral midpoint (see page 42).

The escape option is handled for analysis and results reporting in different ways. Sometimes those selecting the escape option are not included in the analysis of that particular item. Sometimes the percent of persons selecting this option are reported to management on histogram charts along with those selecting other options. Quite often those selecting "Don't Know or Not Applicable" are recoded as having selected the midpoint of the scale (3.5 in this case) and are included for analysis purposes. If this approach is chosen, respondents are treated as if they gave a "Neither Agree Nor Disagree" response, even though the format shown above avoids a neutral midpoint. But the "Don't Know or Not Applicable" response is not a neutral response and is certainly not positioned that way on the scale. This approach is mentioned only because it is common. If there were many such cases, it would tend to draw more valid responses toward the midpoint and is, therefore, **not recommended**. The issue of how to deal with escape options for analysis purposes needs further empirical study.

Response Scale Directionality: It is common for Likert scales to start with the negative or with a zero point on the left (or first) and go to the positive or more of something on the right (or last). Recently, a manager in the field who reviewed the author's paper-and-pencil draft of the **USAF Medical Service Objective Medical Group (OMG) Survey** objected to this. He contended that to start with the negative or with a little of something may bias the results in a

negative direction and suggested that most surveys start with agreement and go to disagreement. Others on the OMG survey team shared this concern.

This concern seemed reasonable so I discussed the matter with colleagues and examined the literature. Starting with the positive and going to the negative is not the case in the Air Force and seldom the case in academic surveys. The most frequently used format is the one recommended here. The approach used by different investigators varied; some switch the scale around, but most do not. Rossi, Wright and Anderson (1983) show a Likert scale starting with "Strongly disagree" on the left (scored as 1) going to "Strongly agree" on the right, scored as 5 (or more for more scale points), unless a negative item would call for reverse scoring. Also, as advocated here, each point is verbally anchored. Nunnally (1978) provides examples of agreement scales with disagreement on the left or first in a sequence and agreement to the right or last.

After talking with colleagues and examining the literature, I remained confident that my approach was sound. However, this is a research issue that could be examined empirically. Development, administration and analysis of the **OMG Survey** was on too quick a time table to include examination of scale directionality in the research design. The survey was also automated in its final form so that initially the cursor placed the respondent in the middle of the scale for each item, making the directionally issue mute. However, in future paper-and-pencil or automated survey research, surveys could be developed in two formats with verbal anchors going from "Strongly Disagree" to "Strongly Agree" and vice versa. The survey could be administered to two samples matched on demographic characteristics. Differences in average response patterns and response variance could be examined to see if starting with negative verbal anchors on the left of the response scale results in more negative responses.

Scale Points and the Neutral Midpoint: The number of scale points used on a Likert scale varies and is usually five or six. The author's colleague, Dr. R. Bruce Gould, performed some research several years ago which indicated that more scale points were advantageous up to a maximum of about 11. Nunnally (1978) reports similar findings. He states that reliability increases with the number of scale points, rapidly at first, leveling off at about 7 scale points, with little gain after 11 points. Another colleague with experience in occupational surveys, Mr. William J. Phalen, commented recently that the optimal number of points may depend on the attributes of the respondent and on the object or issue being evaluated. For instance, it may depend on how knowledgeable respondents are about what is being rated and how easy or hard it is for them to make fine distinctions about what is being evaluated. Some things can be easily measured with only a few categories; others require many.

Some survey experts recommend use of a neutral midpoint. Others do not. Nunnally (1978) explains that a neutral midpoint (such as "Neither Agree Nor Disagree") may make respondents more comfortable because they may have a neutral reaction to your statement. However, he also argues that use of a neutral option may introduce response styles unrelated to the attitude being measured. He reports that in studies in which respondents were given a 5-point scale with a neutral midpoint at first, and who were later administered a 6-point scale with no neutral midpoint, there was reliable variance in the responses of subjects who first chose the neutral midpoint. This would suggest that not having a midpoint is preferred. However, he concludes this is not a very important issue and should be left to the individual investigator.

Presser and Schuman (1980) studied the effects of omitting and offering middle positions such as "About the same as now" and "Right amount." While these options differ from the neutral midpoint "Neither Agree nor Disagree" common on some agreement scales, this study sheds light on the effects of using middle positions on attitude surveys. Presser and Schuman accepted middle position responses on "omitted" interview protocols only if such responses were **spontaneously** offered by the respondent. For other people interviewed, they explicitly included such options. The midpoint statements were sometimes volunteered under the "omitted" condition. However, when they were explicitly offered, the number of respondents selecting such a category typically increased by 10 to 20 percent and sometimes up to 39 percent. The selection of "Don't know" responses declined only slightly when such middle statements were provided. The greatest impact was a proportional decline in the selection of the polar positions. They concluded more research was needed to study form effects such as the inclusion or exclusion of middle position statements.

I once used 5-point scales with a neutral midpoint, but now uses 6-point scales with no neutral midpoint, preferrin this approach for reasons discussed in the shadowbox below. But I agree with those cited above that this remains a research issue for future investigation. Also, it could be argued, as my colleague Lt Tim Porter does, that leaving off a neutral midpoint forces people with no opinion on an issue to select an untruthful response of mild agreement or disagreement. If you wish to use scales with a neutral midpoint, examples are provided in Appendix G. Another approach would be to use a scale with no neutral midpoint, but to add a "no opinion" escape option in addition to the "don't know or not applicable" response.

A policy concerning Likert scale format was established in the Air Force Materiel Command (AFMC). The former commander of AFMC decreed a few years ago that the author's recommended format (6-point with no neutral midpoint) would be the standard throughout the command. He did this because I recommended the format and because he was interested in consistency and ease of comparing results across surveys.

Why I Recommends Not Using a Neutral Midpoint? In 1990, the leadership of what was then Space Systems Division at Los Angeles Air Force Base asked me to do an assessment of the quality of life in and around Los Angeles. Five-point agreement, satisfaction and importance scales with neutral midpoints were used (see Appendix G for examples). When results were presented to management, they didn't know how to interpret the "Neither Agree Nor Disagree" response for their purpose of trying to improve the quality of life for base personnel. They thought it was a wishy-washy, useless, cop-out response. They even asked me to exclude from analysis people who had selected the neutral midpoint.

The viewpoint of these managers toward the neutral midpoint made sense. The author's scale was encouraging people not to take a stand and it was confusing to managers. When it comes to attitudes about issues that affect people personally, they usually have an opinion. Therefore, they should be encouraged to take a stand by leaving out the neutral midpoint. Of course, they should always be able to select the "Don't Know or Not Applicable" option if they really don't know or if an item does not apply to them. This option could also be selected if they felt they had no opinion. Therefore, in subsequent surveys, I transitioned to the 6-point format with an escape option but no neutral midpoint. Although I have decided to use such a scale in preference to one with a neutral midpoint, scales with neutral midpoints may be appropriate on some surveys. For instance, they may be better suited for academic surveys concerned with

model testing and development than for surveys designed to provide feedback to managers or other clients.

Verbal Anchors: The Likert format typically uses verbal anchors at each scale point. Some survey scholars prefer to verbally anchor only the ends of the response scale. Others may verbally anchor some but not all of the scale points. A colleague, Mr. William Phalen, cautioned in a recent conversation that respondents may tend to select points that are anchored in preference to those which are not. This, in effect, reduces the number of scale points. He also cautioned that verbal anchors may be misunderstood or may be interpreted differently from anchors of similar scales. This is another area where additional research is needed.

An Alternative Format: The Semantic Differential: I have typically used a Likert scale, as discussed above. Another popular format you may wish to consider is the semantic differential. Like the Likert scale, this is a generic term for a scale type rather than for a specific scale. The scale theme or verbal anchors vary, but the format remains about the same. This type of scale has multiple points (for instance, the scale shown below has seven, but it could vary) which are anchored only on the extremes by bipolar adjectives. As Nunnally (1978) points out, the semantic differential is very flexible since virtually any concept that can be named can be rated. It is also a scale form which is easy to construct and quick to take. An example of a semantic differential scale is provided below.

An Example of the Semantic Differential

Members of The United States Congress

	1	2	3	4	5	6	7	
Ineffective	___ :	___ :	___ :	___ :	___ :	___ :	___	Effective
Foolish	___ :	___ :	___ :	___ :	___ :	___ :	___	Wise
Dishonest	___ :	___ :	___ :	___ :	___ :	___ :	___	Honest
Weak	___ :	___ :	___ :	___ :	___ :	___ :	___	Strong
Useless	___ :	___ :	___ :	___ :	___ :	___ :	___	Useful
Harmful	___ :	___ :	___ :	___ :	___ :	___ :	___	Helpful

Anticipated Future Scale Developments: With the availability and sophistication of computers and the more precise measurement they afford, it is likely that better scaling techniques will be developed in the future. For instance, computers make it possible for respondents to locate responses almost anywhere along a response continuum; not just at one of five or six choice points. This capability is not widely used. The response scale format recommended in this text has the drawback that respondents are limited to a small number of verbally described choice points and cannot select a point anywhere along the continuum. Computers can provide many choice points. They are actually discrete points, but they can be

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presented in a way that they appear continuous or almost continuous. Perhaps respondents could touch the computer screen with a point or probe at any desired location along a response continuum. Regardless of the number of verbal anchors used, or where they are placed along the continuum, the ability of computer technology to approximate a continuous response scale may represent a step forward in survey technology. Of course, this will need to be examined empirically.

What about other scale formats? The author's colleagues have experimented with other formats. For instance, Drs. Patrick Kyllonen and Joshua Herwitz have used a semicircular format in which respondents start at a point equidistant from each response option. This is done to reduce response bias. Dr. Winston Bennett recommends a similar "speedometer" approach as well as a "drag a line" procedure. Albert, Phalen, Selander, Dittmar, Tucker, Hand, Weissmueller & Rouse (1994) experimented with new scales for measuring time spent on tasks in occupational surveys. These scales included an Absolute Time Spent Scale, a End Anchored Graphical Scale, a Three Stage Scale, a Direct Magnitude Scale and a Indirect Magnitude Scale.

A Special Case: Surveys for Studying Emotion: Arvey, Renz, Watson and Driskill (1997) recommend that emotional expression in organizations be studied to improve the prediction and understanding of job performance and other outcomes. Surveys and interviews are two methods they recommend for this purpose. They describe and provide excerpts from a number of surveys used to measure the recall of emotions and emotional episodes. These measures sometimes use Likert scales but frequently use other response formats. Although these instruments show promise, refinement of existing measures and development and evaluation of new ones appears to be needed.

Surveys need not be limited to investigating the recall of past emotions. They can also be used to tap attitudes toward and reactions to the emotional displays by oneself or others. Also, interviews provide another good method for studying emotion.

Item Writing Suggestions

Crafting item ideas into good items is challenging. Guidelines for doing this are provided below. See also Dillman (1978, Chapter 3), Schuman and Presser (1981), Frey (1983, Chapter 4), Sheatsley, (1983), Bradburn and Sudman (1988, Chapter 7) and Salant and Dillman (1994, Chapter 6).

Keep Items Short and Simple: When an item idea is first written, it is usually too complex and too long. Take your initial item idea and identify words that are jargon or which may not be easily understood by all respondents. Remember that not all respondents will be as educated as you and their vocabulary may not be as complete. Your survey should be written at a reading level all respondents will be comfortable with. English may be a second language for some respondents and you may need to develop a foreign language version (see Reduce Reading Difficulty and Eliminate Language Barriers on page 32). Substitute simple words with the same meaning for complex words. If an acronym is used, spell it out first. Next, look for verbosity and simplify the item stem (and response options if they are item-specific) by eliminating unnecessary words or phrases. For example, this wordy item:

> We are naturally experiencing some "growing pains" with OMG implementation, but the structure is basically sound and we will work out our problems.

became this item:

> We are experiencing growing pains with OMG implementation, but the structure is basically sound.

Another way to simplify an item is to reduce redundancy. Sometimes there is a common phrase in item-specific response options. This phrase can be put in the stem. Likewise, you can take a phrase that would be common to many items and extract it from the stem as a separate lead-in. For instance in the **OMG Survey**, we had more than fifty items with the common lead-in phrase:

> With implementation of the OMG structure:

When items are used with a common lead-in, do not capitalize the continuation of the stem, since it simply completes the sentence, as follows:

> With implementation of the OMG structure:
>
> teamwork among medical staff members improved.

The **OMG Survey** also used the following lead-in phrase for satisfaction items, making the continuation of the stems short:

> Since OMG implementation, how satisfied have you been with:

Make Items Exhaustive and Mutually Exclusive: Objective response options should be exhaustive (covering the complete range of options) and mutually exclusive (not overlapping).

Assume on a paper-and-pencil survey that you want to ask how long a respondent has been on-the-job (that is, his or her tenure). Let's say you are only interested in years (rather than years and months). Listing every year option (say 1 to 20 years or more) as a nearly continuous variable without categorizing age into multiple-year groups would take up too much space. It may also not be feasible given the limited number of options on most scan sheets. So you would aggregate years into ranges, creating a more categorical variable. To be exhaustive, you would include a "Less than one year" option. To be mutually exclusive, you would avoid saying "Two to four years" and then "Four to six years," etc., because four years would be included in two response options. Rather, you might say "Two to three years," "Four to six years," etc. and end with "More than twenty years." There is nothing magical about twenty years. You could continue with the more precise categories and say "More than thirty years." Of course, you may be creating too many options and could correct this by broadening categories ("Two to five years" etc.). Use what makes sense and is practical.

One way to make sure the alternatives are exhaustive is to include an "Other" option. On an automated survey you could say something like "If other, please specify." The "Don't Know or Not Applicable" response usually included with standard response scale items is another way of being exhaustive.

Requesting Tenure in Years is Easy on an Automated Survey. The years-on-the-job example points out an advantage of automated surveys. You would not have to be concerned about these issues and could easily get a more precise measure of years (or even years and months). If years is all you want, say "Approximately how many years have you worked for (your organization)? (Round up to the nearest year.)" Then, provide a space where the respondent types in the years.

The years example is a straightforward request that most respondents would handle correctly. However, beware. If you ask respondents to key in a more elaborate numerical response, the request may be executed incorrectly and be hard to interpret. For instance, asking people for a longer set of numbers (for example, the numerical designation of their job series, a training course identifier, or their social security number) may result in accidental error.

An educational attainment item I reviewed provides another example of an item that needed more exhaustive and mutually exclusive options. Consider the following item:

Educational level:

    A. Less than high school
    B. High school
    C. 1 - 3 years of college
    D. Four years of college--BS degree
    E. Master's degree and above

This item uses "less than" and "and above" to cover extreme cases, but it leaves out categories in between. For instance, some high school with no high school completion is not covered. There is no category for someone who did not finish high school, but who did obtain a GED. What about those who obtained an Associate's degree from a junior college? What about those who attended a vocational school? Option "D" is vague. Does it mean four years for those who had a bachelor's degree, or four years of college with or without a bachelor's degree? "BS degree" (for Bachelor of Science) may not be understood, and it may be too specific. For instance, how would a person with a Bachelor of Arts degree respond? These problems can be corrected by asking for **highest level** of education, increasing or refining the options and either decreasing the specificity of degrees obtained or being flexible (by using i.e., or etc.) in indicating the degrees obtained. The stem would be better phrased less abruptly as a sentence. For example, the following item was used on the **San Antonio Air Logistics Center Career Planning Survey**. I had first refined the original stem and expanded the options. Pretest participants suggested adding options E & H.

> What is the highest level of education you have attained?
>
> A. Less than high school
> B. Some high school
> C. High school graduation or GED
> D. Technical, vocational or business school.
> E. Some college, but less than two years
> F. Two years of college, no degree
> G. Associate's degree
> H. Three years of college
> I. Four year college, no degree
> J. Bachelor's degree (BA, BS, etc.)
> K. Some graduate school, no degree
> L. Master's degree (MS, MSW, MBA, etc.)
> M. Doctoral degree (Ph.D. JD, MD, DDS, etc.) or above.

In this example, the "M" option was not included on the Logistics Center survey. The SA-ALC survey ended with "L. Master's Degree or above." How specific you get, and at what level, depends on the characteristics of your target population and your information needs. If members of your population have had considerable formal education, you might combine, for example, the first three options. You might also cover the college years with fewer categories. In the example above "or above" was included in response "M" to cover postdoctoral work. Perhaps an "Other" option should have been included.

This example may have too may options and is not presented here as the only education item to use. Use your own judgment concerning the broadness of your categories, but keep them mutually exclusive and exhaustive.

Keep Items Neutral: It is very important to avoid introducing bias into your item stems or responses to lead respondents to a desired response. But keeping items neutral does not mean they are to be completely neutral. As Nunnally (1978, p. 605) states, "There is no place for truly neutral items in (Likert type) scales." Rather, items are usually mildly positive or negative since respondents need a non-neutral statement. The issue is that respondents should convey what they think or feel and not be led to your desired response (if you have one). Thus, you would not write an item stem such as this:

> Do you favor building new prisons to make up for the disastrous policies of the (whomever) administration which was soft on crime?

Likewise, you would not use poorly ordered or asymmetrical response options like:

> Definitely yes
> Probably yes
> Yes
> No

Doing so would suggest you favor more prisons, are contemptuous of the former administration, and desire a "yes" response. As Bradburn and Sudman (1988) note, such loaded questions are

sometimes found on pseudo-surveys sent out by special interest groups to increase donations. They are persuasive communication, not good survey items.

Don't Mix Apples and Oranges: Sometimes two issues are covered in a single item. Avoid this. For example, consider the following item:

I am satisfied with upward and downward communication in my organization.

A person may be happy with downward communication (because top-down management may communicate well with staff). However, he or she may believe management stifles upward communication by adhering too strictly to the chain of command, or by preventing easy access to senior leaders. Thus, the item would be better phrased as follows:

How satisfied are you with:
 	
    upward communication in your organization.
 	
    downward communication in your organization.

Note that the phrase that distinguishes between two otherwise identical items is highlighted for emphasis. These rather general items could be supplemented with others tapping potential specific problems with organizational communication.

Getting rid of redundancy is desirable. If the items above are with several other satisfaction items where "in your organization" does not always apply, then leave them as is. If the "in your organization" phrase applies to every satisfaction item, it can be extracted from the stem and included in the lead in, as follows:

In your organization, how satisfied are you with:
 	
    upward communication.
 	
    downward communication.
 	
    your immediate or **first-line** supervisor.
 	
    your **second-line** supervisor.
 	
    your senior leadership.
 	
    the **authority** you have.
 	
    the **autonomy** you have.
 	
    your opportunities for career progression.
 	
    your opportunities to influence policies affecting your job.

If the focus on "your organization" was made clear in introductory comments/instructions, the phrase can be left out. Note that topics which are almost the same, but slightly different (e,g., supervisor level and authority/autonomy), were highlighted for emphasis. Note also that the terms first-line supervisor and second-line supervisor may be misunderstood. Thus, first-line is also defined as immediate; by implication, second-line is distant.

Here is an item mixing trust and respect, which are different constructs:

> My supervisor:
>
> has earned my trust/respect.

You can trust someone (not to betray you), but you may not respect him or her. For instance, the person may stick up for you, earning your trust. But the same person may have other qualities you do not respect. For example, he or she may be inconsiderate or unethical. Thus, the following revision is recommended:

> My supervisor has earned:
>
> my trust.
>
> my respect.

Note that two things were done in this example: a multiple issue item was broken into two items and redundancy in the stem (has earned) was moved to the lead-in phrase. This would not be possible, however, if "has earned" was just one of many phrases used in conjunction with "my supervisor." Note that these items are phrased in a way to give only a general idea of the degree of trust and respect. If more detail is desired, specific items could be included to tap why the supervisor is trusted or respected (or not).

If you did not want to use a lead-in phrase, you could say:

> I **trust** my supervisor.
>
> I **respect** my supervisor.

Again, a word or phrase distinguishing between two otherwise identical stems was highlighted.

Another item from the same survey which mixes two things is:

> My supervisor:
>
> believes in and practices quality techniques.

Belief and action are different. The supervisor could believe in quality techniques (as in Total Quality or Quality Air Force). But he or she may not practice them. Even though this will result in two items, the following alternatives are suggested:

> My supervisor:
>
>   believes in the quality philosophy.
>
>   uses quality techniques at work.

Don't Be Vague; Tap Directionality: In reviewing the **Supervisor's Feedback Survey** for the San Antonio Air Logistics Center, I considered the following item too vague:

> My supervisor:
>
>   provides leadership to improve communications with customers.

What is the nature of the leadership that improved communication with customers? If you have a hunch what it is, state it. If it could come from several actions, include multiple items to tap these facets. One suggested alternative is:

> My supervisor:
>
>   encourages me to be in frequent contact with my customers so I can
>   respond to their needs.

Note that this item may be longer than necessary. Is the "so I can respond to their needs" really needed? Ask yourself these kinds of questions as you refine items.

Let's criticize an item from the author's own **Objective Medical Group Survey**:

> Since OMG implementation, how satisfied have you been with:
>
>   the autonomy you have to do your job in the way you see fit.

Responses to this item would tell you that a satisfied person was pleased with the autonomy he or she had. But you would not know if a dissatisfied person wanted more or less autonomy. Do not assume all people want more autonomy. However, if you used the following statement with an agreement scale, you would tap directionality, knowing that if they agreed with the statement they wanted more autonomy.

> I do not have the autonomy I need to do my job in the best possible way.

Consider this item proposed for inclusion in the **San Antonio Air Logistics Center Career Planning Survey**:

> Would offering a separation incentive change your mind about retiring? (yes/no)

Now consider this final item, clustered with similar items using a willingness scale:

> How willing would you be to:
>
> take early retirement for a cash incentive up to $25,000, depending on grade and years of service.

In the original item, the person responding was given no idea of the incentive's magnitude and would be unable to make an informed decision. The revised item is more specific. However, it may be flawed by not providing the range of the incentive or by not specifying the actual incentive or formula for calculating it.

Include Negative Items: I highly recommend negative items. Be aware that corporate customers may frown on negative items, sometimes claiming they may foster negative results. This is doubtful since including them conveys your honesty and sensitivity. Include a mix of positive and negative items for at least four reasons:

1) it breaks the respondent's tendency to answer questions in the same way (acquiescent response set);

2) it conveys that you are not trying to put a "positive spin" on the results;

3) it lets respondents know you are sensitive to troubling issues and aware of sources of dissatisfaction, and

4) it is likely to reduce response bias.

Nunnally (1978) recommends that item wording should be mildly negative or mildly positive since extreme wording tends to decrease response variance. He also suggests that the mix of positive and negative items be about half and half. Although it is reasonable to have such a balance, it has been the author's practice to include fewer negative items than positive ones. In reviewing the attitude measures of other authors, this seems to be a common trend. Of course, the author's tendency to include fewer negative items may be a conditioned response based on his awareness of client sensitivity to such items. In some instances it has been the result of client refusal to use such items.

Concerning the issue of wording strength, it has been the author's practice to word some positive and negative items somewhat strongly to accurately capture sentiments identified through interviews prior to survey development. This lets respondents know you are in touch with the issues and aware of their thoughts and feelings. But the admonition to keep the positive or negative intensity of items mild is generally sound. Intensity is captured by where along the response scale continuum respondents select their responses. For instance, if "Strongly Agree" is selected in response to a mildly negative item, the implication is that the person has strong views on the issue. He or she would probably have phrased the issue more negatively than indicated by the item stem, if asked spontaneously about the issue. Keep in mind that personality differences which affect responding may also apply here. Some people seldom, if ever, select the extreme responses, even if they have strong thoughts or feelings about the issues expressed. They may also tone down their strong views if asked about them.

As mentioned above, I have sometimes targeted items about specific issues for positive or negative wording. However, the decision to make an item positive or negative should usually be random. As colleague Dr. Walter Albert cautions, to avoid biasing responses, this approach is preferable to the practice of basing the decision on how you believe most respondents would feel about an item. Some negative items I recommended for inclusion in the **Supervisor's Feedback Survey** used at the San Antonio Air Logistics Center are provided below.

My immediate supervisor:

only plays "lip service" to quality.

likes to micromanage how I do my work.

doesn't give me the autonomy I need to do my job as I see fit.

doesn't give me the authority I need to do my job.

cares more about pleasing superiors than looking after subordinates.

doesn't stand up for his or her subordinates.

Note that the phrasing of items is colloquial; "doesn't" is used instead of "does not."

Several negative items were included on the **OMG Survey**. Some examples which used a common lead-in follow:

With implementation of the OMG structure:

providers and care givers have less time to see patients.

my administrative workload has increased.

my facility is top heavy with too many layers of management.

I am less clear about my job duties.

I am less clear about what policies to follow.

there are more jobs to do with the same number of people to do them.

first sergeants have too little involvement in the well being of enlisted personnel.

career development issues are more difficult to deal with than in the past.

Here are some negative items from the **Objective Medical Group Survey** which do not use a common lead-in phrase:

It doesn't make sense to break a functional medical facility into several squadrons or flights.

> Persons in one specialty should not supervise those in another specialty.
>
> The OMG structure cannot be implemented successfully without providing additional personnel.
>
> It is a disservice to some of our best people to assign them to the group staff.

The following negative items were proposed for the **USAF Financial Management Career Survey**. All but the last items use an agreement scale.

> I am unwilling to do what it takes to get promoted in the financial management career field.
>
> In my organization, people get promoted **by flattering** their boss.
>
> In my organization, people get promoted **through aggressive self-promotion**.
>
> I seldom receive unsolicited information about training opportunities.
>
> People in my organization are seldom informed why they weren't selected for promotion.
>
> Getting promoted is not that important to me.
>
> Performance evaluations are so political or inflated that they are practically useless.
>
> For what reasons would you **not want** a promotion? Select all that apply.
>
>> I don't care about greater recognition
>> I don't want more responsibility
>> I don't care about having more influence in my organization
>> I don't want to be promoted out of my profession
>> I like what I am doing
>> I don't want to leave my current boss
>> I don't want to leave my current organization
>> I don't want to enforce higher management directives
>> I don't want to supervise others
>> I wouldn't have the freedom to supervise or motivate others my way
>> I would have to move
>> For family reasons
>> I am about to retire
>> Not applicable
>> Other (specify)

On Organizational Surveys, Include Some General Climate Items: When they desire to conduct organizational surveys, clients often focus on specific concerns such as organizational structure, career management/planning, quality progress, customer satisfaction, quality of life, or compressed work schedule. Even if you are not conducting an "organizational climate" survey, consider including a few items on organizational climate issues to monitor how well your

organization is doing on key climate issues like communication, satisfaction with various facets of the job, participation in decision making, autonomy, innovation, and the value placed upon human resources. The following climate items were recommended for inclusion in the **USAF Financial Management Career Survey** mentioned above.

I trust my supervisor to act in my best interest.

I am consulted when decisions are made which affect me.

I could do my job better if I had more autonomy.

I can easily talk to people at other organizational levels and in other departments.

In my organization, problems or disagreements are dealt with effectively rather than "swept under the rug."

In my organization, management decisions are made in secret and then sprung unexpectedly on the workforce.

I have to rely on the grapevine (rumors) to find out what is going on in my organization.

The well being of all employees or AF members is a high priority in my organization

People in my organization are treated with respect.

Creativity is rewarded in my organization.

I would like to participate in alternative time/place work arrangements such as flextime, compressed work schedule or telecommuting.

I am satisfied with my **supervisor**.

I am satisfied with my **job**.

I am satisfied with the **financial management** career field.

This is only a small set of general organizational climate items. It is not meant to be exhaustive. In context with other similarly formatted items, these would need to be shortened and cleaned up. For Instance, the last set of satisfaction items could be rephrased to have a "How satisfied are you with" lead in. In addition, the common phrase "in my organization," used in several of the items, could be extracted and used as a lead in.

   Include Items Only On Topics Your Client Can Do Something About: When you develop items, ask yourself this practical question: can the people who will use the data reasonably have an impact on this issue? If the answer is no, think twice about including the item. Of course, you may anticipate doing something about the problem in the future, or you may arrange for someone else with authority to address the issue. However, if your client has no chance of effectively rectifying a problem, you are wasting your time and the time of survey

participants by bringing it up. You will also raise false expectations by giving the impression the problem will be resolved.

Several items were deleted from the **Objective Medical Group Survey** based on this principle. For instance, the following item was deleted because it was covered by personnel regulations beyond the AF Surgeon General's control:

> With implementation of the OMG structure, it is harder to get General Officer signatures on performance appraisals.

Likewise, the following item concerning alternative care was deleted because the change it represented could only be brought about through Congressional action: (Of course, allopathic physicians--e.g., those who are trained in and practice traditional American-style medicine--may also have been disinterested in providing these services.)

> The OMG structure of my medical facility should include alternative forms of care (such as chiropractic or homeopathy).

Keep Items Relevant to Your Purpose, Especially if Very Intrusive: Let's say you must include very intrusive items on a background questionnaire to screen people for sensitive positions. For example, you may include questions about drug use. Questions about current use, or use in the recent past, may be reasonable given the sensitive nature of the job and because behavior in the present and recent past is most predictive of future behavior. However, in most instances it would be inappropriate from a privacy invasion viewpoint and irrelevant and invalid from a predictive viewpoint to probe about such use years ago. Respondents may decline to answer such intrusive questions, or you may get misleading answers, even to questions concerning current or near-term behavior. As Koral (1988, p. 57) warns after summarizing legal issues related to privacy, "Don't get information you don't really need--snooping can get you in trouble, and having information that is not really necessary can get you in trouble if you use it." The principle of not asking irrelevant questions applies regardless of whether they are very intrusive. Shorten your survey by excluding irrelevant items.

Make Objectionable Items More Acceptable: In Chapter 4, I recommends limiting or avoiding objectionable or overly intrusive items. He does acknowledge they should be included sometimes since controversial issues need to be understood. Dillman (1978, pp. 105-108) and Salant and Dillman (1994 p. 96) and Mael, Connerley and Morath (1996) provide suggestions for making objectionable items more acceptable. These suggestions, and others from the author, are discussed below.

Dillman and Salant and Dillman cite that asking for total family income or company profit are topics many people consider objectionable. (As mentioned on page 20, Bradburn et. al also found income questions to be threatening.) Rather than asking for specific total income or profit, they suggest providing response options which are ranges of income. For instance, you could begin and end with "Less than" and "More than" statements and have ranges of five or ten thousand dollars (or more). They recommend you do not make your categories too narrow or people may think you are trying to get a precise income figure and will not answer.

Dillman and Salant and Dillman also suggest that objectionable content be placed in a balanced context to soften its impact and to convey that it does not reflect the data gatherer's own view. Salant and Dillman use a welfare example. Dillman uses an example of an item expressing a strong negative view toward the church as a "parasite on society," presumably because churches are exempt from taxation. This is a strongly worded negative item that many people would find objectionable since Americans typically have a high regard for religious institutions. Dillman suggests the addition of a positively worded item about the topic as a counterbalance. He recommends a lead-in acknowledging that people have different opinions about the role of the church in society. Notice that the simple lead-in shown below is neither negative nor positive. However, it is dated and implicitly equates organized religion with Christianity through the use of the word "church." Today, such questioning might relate to the political role of religious groups and be broadly worded so anyone can answer, regardless of their religious views or affiliations.

For example, the following lead-in could be used followed by several items using an agreement scale:

> Some people believe that religious group members should be politically active to help change society. Other people believe they should focus on the spiritual needs of their members. In the items which follow, we are interested in your views on this issue.

The phrasing of this lead-in is probably not offensive. However, this assumption should be pretested (see Pretest Your Final Draft on page 65). The question is broader and applicable to more people than the example concerning the church provided above. It can be answered easily by anyone regardless of their religion and religious beliefs.

Mael, Connerley and Morath (1996) discovered that specific questions about religion (frequency of attendance and observing specific holidays) were considered invasive in a biodata inventory for job selection. They also discovered that a question about specific political party membership was considered very invasive in the same context while a question about being a political volunteer was less so. They recommend general activity questions or items be used which avoid specifics about denomination or membership. To that the current author adds the recommendation that respondents be asked their attitudes toward political, religious (or other) organizations and their members, rather than direct questions about membership.

Dillman also explains that the most difficult items to write are those which could lead to respondent condemnation or incrimination. He suggests an easy way to make such items less objectionable: Rather than asking people about themselves and their behaviors or controversial views, solicit their attitudes toward others who engage in such activities or who hold such views. You could also ask general attitudes toward the topic. If you must include items about the respondent's own behaviors or views, Dillman recommends that you lead up to them by placing them after general attitude items (not tied to the respondent) on the same topic.

You may be able to get indirectly at racist or sexist attitudes by asking people about the racism or sexism of those with whom they work or otherwise associate. However, their attitudes may differ from those around them, especially at work.

You could indirectly assess the threat of survey content by asking how threatened **other people** would be by certain questions, as Bradburn et al. (1979) did (see page 20).

Sieber (1992, pp. 58-59) also provides a strategy for lessening risk to respondents and encouraging truthful answers to sensitive items, especially those involving possible illegal behavior. It allows questions to be answered truthfully or untruthfully based on the role of a die, and then the researcher calculates the estimated true proportion of people who actually engaged in the behavior under study. She cautions that the procedure should only be used where "necessary and appropriate" (presumably where distrust and apprehension are high). However, she cautions that this tactic may backfire by arousing suspicion.

Inadvertent Bias

The discussion of item writing and scale construction brings to mind another issue: inadvertent bias. Responses may be inadvertently biased by many factors: how items are worded, the exclusion of negative items, respondents' personalities and personal constructions of reality, and their habituated style of responding. For example, just like some people are reluctant to criticize, or refrain from displaying emotion, some respondents refrain from using the full range of a standard response scale. Respondents can also be lulled into an "acquiescent response set" whereby they respond in a similar fashion to multiple items.

Another source of inadvertent bias is "social desirability bias," that is, the tendency of respondents to tell you what they think you want to hear. If they are consciously motivated to evade a threatening item, this would not constitute inadvertent bias (but it would still be a problem for those interested in accurate data). Inadvertent bias would occur if participants responded in a more positive way just to please you or to have you like them. The desire to please is probably less pronounced on surveys than in interviews since the survey developer is usually not present. But it still may exist since we are trained by our culture and expected by our family and organizations to please others.

Chapter 8

Comments and Return Reminder

An important part of a survey is the comments section at the end and comments in other places where they would be desirable. Comments typically provide the only opportunity for survey participants to respond in their own words. Thus, spaces for comments (and brief narrative items) are the only places where respondents are free to be totally unconstrained. Objective response options can be justly criticized for forcing survey participants to respond using categories and words of the survey developer which may not fit the individual survey participant.

General Comments

Surveys should have a general comments section at the end which provides space for at least a page of optional feedback about the survey or the topics it measures. If people need more space, they can write on the back of the page or use separate sheets of their own. Do not put lines in this space if your survey is paper-and-pencil since people write in all sizes and shapes. You could use an introductory lead-in like this:

> Surveys do not measure all issues that may concern you. If you wish, provide additional comments on (your topic) or on this survey in the space below. If you refer to a specific item, please indicate the item number.

Note that although this is a general comments section lead-in, respondents are encouraged to reference a specific item number to help you group responses later.

A comments section allows people to express themselves in their own words on the topic of interest to you, or on any topic they want to tell you about. It is a rich source of additional information that sometimes provides you with your best information on how to tackle a problem. Typically, comments are provided by about 40% of those who return the author's surveys. They range from a word or two to well crafted letters several pages in length. A brief paragraph is typical. Some people take the comments so seriously they provide their name and phone number and ask that you call them. If they request this, follow through to increase their sense of being consulted and to help you gain additional insights.

Comments sections are difficult to analyze. You can do a content analysis (described in more detail on page 72) where you identify themes and subthemes and count the frequency with which they are mentioned. When reporting back to your customer, you can even quote some of the most representative comments on critical themes. If you received the comments from an automated survey or transcribed them to a disk, you can do key-word searches to facilitate your understanding of themes. These approaches are not sophisticated and they are labor intensive. However, comments are rich sources of understanding even if all you do is read them. Once you read the first hundred or so comments pages the remainder will probably be redundant. You will likely have identified all the major themes.

Two cautions about comments are in order. First, comments are more often negative than positive. Those who are dissatisfied--those who management may want to dismiss as

malcontents and muckrakers--are more likely to take time to write comments. In the author's experience, this has led some managers to discount them. Encourage management to take comments seriously. Perhaps you could encourage more balanced comments by adding a sentence like this to your comment section lead-in:

> Since it is important for us to know what we are doing right as well as wrong, please provide positive and negative comments.

You could even have respondents categorize comments as either positive, negative, or other.

The second caution pertains to confidentiality and non-attribution. Comment transcripts should not be attributed to specific individuals, regardless of whether they are the object or the source, except if the reference is to a person whose identity would be hard to conceal (for example, the commander, the CEO, the department chair, etc.). By-name references, especially of a negative nature, should be deleted before being shared with management. Thus, if a person said "I am upset with the way my hospital commander treats the members of the group staff because he (she) fails to keep them involved in decision making," that would be a fine comment to share. But if someone said "Colonel so and so is a (expletive deleted) who cares only about himself and his own career advancement," the reference to the officer's name should be excised before the transcript is shared with management. It might be constructive for management to know the frequency and nature of such comments (to get an idea of the quality of leadership), but the individual who is the object of the comment should be protected since the accusation is hearsay and may be without merit. There is probably an exception to this general rule, and this is hypothetical since I have not encountered it in a survey comment. If serious wrongdoing is alleged, it may need to be investigated further, but it would have to be proven and the rights of the accused would have to be safeguarded.

Sometimes it is difficult to hide the identity of the person who is the subject of a comment, and it may not even be desirable. People in executive positions can easily be identified by their title. They need to be made aware of criticism (in a helpful way), able to accept it without becoming too defensive, and able to grow from criticism which seems fair. If similar criticism comes from several sources, there is probably truth to it.

The identity of the provider of such information should be held in confidence, and executives themselves should be shielded from negative comparisons with their peers. The information should be used to help improve executive effectiveness and enhance organizational functioning rather than to put executives down in front of their colleagues.

Item-Specific Comments

On short paper-and-pencil surveys to a small group of people, it may be reasonable to provide space for brief comments to each item or to selected items. However, on long paper-and-pencil surveys, on those using a separate optical scan sheet, and on those going to huge numbers of people, this would be less feasible.

> Item-Specific Comments on Automated surveys. Allowing comments to every item is quite feasible on automated surveys and some survey software, like that from the Armstrong Laboratory, permit it. Use of this option is encouraged. Don't fear getting back too much

information or having to perform complex analyses of this narrative input. Even in raw form, these comments may be quite helpful. For instance, imagine that your survey is going to people at many different facilities and you wish to use your survey to identify needed improvements at each facility. If objective responses to a particular item provide a general indication of a problem at a particular site, you could print all comments to that item made by people at that facility to get richer, more specific information about the nature of the problem. Having a manager at the facility read these site-specific comments would not be too burdensome.

Thank You Message and Return Reminder

After your general comment section, remember to thank respondents. Don't say something abrupt like "The survey is now complete." Also, remind them of how to save their data and exit the survey if it is automated and how to return the survey to whomever will analyze it. On a paper-and-pencil survey using a separate optical scan sheet, your thank you message and return reminder could be as simple as this:

Thank you for completing this survey. Please return your comments page and answer sheet (unfolded and unstapled) to your local survey administrator or directly to the following address: (included address).

Chapter 9

Creating a Survey

Assume you now have the knowledge to put a survey together. Where do you start? How do you go about developing items and formatting them and the other parts into a good survey? In this chapter, the process of actually putting a survey together is discussed.

Identify Themes You Wish to Measure

Don't just start writing items. First, identify the themes you wish to measure. You can do this in a number of ways. You can go to the academic literature, your customers, or to representatives of the target population you wish to survey. Naturally, you can use all of these approaches to be very thorough.

Consult the Literature or Scholars

Academic surveys usually contain content measuring various constructs of a theoretical model of organizational or social phenomena. The items measuring each construct of the model are called the "operational definition" of the construct and are at first conceptually determined and later empirically validated (see Quantitative Inferential Analyses and Results Reporting on page 71). The ideas for these models and constructs typically come from the literature, government technical reports, similar sources, or from scholars themselves.

> I consulted the literature when I studied enlisted personnel retention (Watson, 1986a, 1986b) with the **United States Air Force Retention Survey**. The academic literature was extensively reviewed and a conceptual model of turnover and retention was developed for testing which contained over twenty constructs (themes). Next, items were developed (or borrowed/adapted from other sources) to measure the constructs. In the course of this research it was discovered that the original conceptual operational definitions of the constructs were similar to, but, nonetheless different from, the empirically-determined constructs. That is, the items that were summed and averaged to form multiple-item scales to measure these constructs changed somewhat. Construct names, and the items used to measure them, were slightly different. In addition, the final empirical model had fewer variables (constructs) than the original conceptual model. This is what typically happens in research involving the testing of a theoretical model.
>
> If you are academically inclined, your themes become constructs or variables to measure and you think of them as predictor or criterion variables to test in a model. Thinking in this way is helpful if you want to "determine the psychometric properties" of your survey (this typically means to determine its reliability and validity). Notice that if you are measuring multiple constructs, it is not the instrument as a whole that gets assessed but the reliability and validity of each construct it measures.
>
> Remember that in many organizational research or survey consultation applications elaborate analyses would not need to be performed. Descriptive statistics may suffice. See Quantitative Descriptive Statistics and Results Reporting on page 70.

Consult Those Who Requested the Survey

You can consult another type of expert outside the universities and not published in the literature. These experts are your customers who asked you to develop a survey--the executives, community leaders, or others in authority who ask you to investigate an issue. Often they have considerable knowledge to help you.

When I was asked to study physician leadership development by the Air Force Surgeon General and the Wilford Hall Commander, he became a member of the Surgeon General's Ad Hoc Committee on Physician Leadership Development and was asked to develop, administer and analyze the **Physician Leadership Survey**. Being on the committee gave him direct access to the senior Air Force medical leadership. They became the content experts and I was able to elicit from them what the content of the survey should be. The knowledge I gained from them was confirmed and supplemented through interviews with physicians at Wilford Hall Medical Center.

In this case, simple descriptive analyses were performed. They were sufficient to provide good feedback to the senior leadership (Watson, 1993). For an academic audience, inferential analyses were later conducted and reported (Mueller & Watson, 1996).

Consult People at the Grass Roots

Scholars in academia or management, or organizational and community leaders, are not the only good sources of survey content. People in different roles, in different groups, or at different organizational or societal levels have their own unique perspective on issues. The literature, or even those people who asked you to build your survey, should not be the only sources of information for identifying themes. They may not even be the best sources. An excellent source of information are the people impacted by what you are studying, at all levels of an organization, or in different walks of life. It is a very good idea to interview people at the grass roots as part of the process of survey development. You can get excellent ideas for survey content--the issues to tap. You can also learn how to write your survey in a way that suits the respondent population. As Stewart and Shamdasani (1990) point out, interviews can help you discover how respondents talk about the issues of interest, explore alternative item formats, and examine the suitability of your response scales. See Appendix J for brief interview guidance. For more complete information see Watson (1996).

Are you in marketing research and evaluating a product or service? If so, customers who have used the product or service are an excellent source of ideas for survey content. Such customers are likely to be quite familiar with what you are studying, know what they like or don't like about it, and have suggestions concerning how it should be improved.

When I was asked to develop the **USAF Medical Service Objective Medical Group (OMG) Survey**, I went to the grass roots: to people in representative Air Force medical facilities who lived day-to-day with the new structure. Individual and group interviews were conducted using an unstructured, permissive focus-group approach to interviewing (see Krueger, 1988; Watson 1997) to identify themes. I didn't just go to management within these facilities. People at all levels of the organization and in many different roles were interviewed. After

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interviews in five locations he was able to identify over thirty themes and had taken about 100 pages of notes. These themes and the interview notes were used to develop 370 attitudinal items from which 113 were selected and refined for use in the final survey. Note from this example how it is wise to develop far more items than you will use. From this large set, you can then select and refine the best ones.

Why didn't I just go to the literature or the AF Surgeon General's staff to get themes and item ideas? Why was going to people in the field so critical? Naturally what little literature was available on the OMG structure was read, and the Surgeon General's staff was consulted. In fact, they were most helpful in assisting with survey refinement. But they were not sought as the main source of information on how to identify themes for at least the following reasons:

• the OMG structure had recently been implemented in medical facilities and there was little literature available on it;

• the Surgeon General's staff were in headquarters geographically separated from the medical facilities involved in OMG implementation;

• the Surgeon General's staff were responsible for OMG implementation and may have had a personal investment in seeing it carried through, and

• I was an impartial outsider from a respected research organization, skilled at interviewing and had previously established a reputation in the Air Force medical community of being trustworthy and discrete. Therefore, medical personnel were more likely to open up to me about their concerns than they may have been to members of the headquarters staff.

Explore Using Existing Items First

Assume you already identified themes. What do you do next? Items are the most important part of your survey, so start with them. Don't just start writing and possibly reinvent the wheel: Use existing items if they are available at little or no cost and you do not infringe on copyright laws. If you are a Government employee, Government surveys are a good starting place since they can be used by others in Government. Look also at surveys from other sources for item ideas relevant to your topic, even if they are proprietary. In some situations you may want to tailor existing items to your situation. Sources I frequently consult include the following works by scholars at the Institute for Social Research at the University of Michigan: Robinson, Athanasiou and Head (1969), Taylor and Bowers (1972), Robinson, Rusk and Head (1973) and Robinson and Shaver (1973). These references are dated but are still useful. I also consult Robinson, Shaver and Wrightsman (1991), a more more recent source by some of the same scholars.

In social science research, investigators often strive to use multiple item scales developed by other researchers because the psychometric properties (especially reliability and validity) of these instruments have been established across many samples. Note that you may not be able to change a proprietary item, and if you do change items, reliability and validity may be affected.

Generate Initial Item Ideas

After you have identified themes you wish to measure and have explored using existing items, begin writing items (or item ideas as I call initial crude items) to measure what existing items do not tap. Concentrate on possible item stems and write down ideas for items without concern for quality, that is, write whatever comes to mind about the theme. Do not edit or review your item idea yet. Write down your next item idea and keep doing this until you have covered all aspects of the theme you can think of. If more item ideas come to you later, write them down immediately before you forget them. Carry a few index cards around just for that purpose. Do not concern yourself with redundancy or worry about response scales this early in the process unless you have to write items that will use item-specific responses.

The recommendation that you do not have to be concerned about quality at first may seem odd, but it is the only way you will generate lots of potentially good items without stifling your ideas. At this early stage, you are brainstorming and should expect to generate two to three times as many items as you will probably use. There will be the opportunity later to refine good items and get rid of the bad ones.

Cull out/Refine Your Items; Select Scales

After you have amassed more items than you expect to use, critically review your items. Cull out poor or redundant ones and refine the rest. (**Note:** you may **want redundant items** if you plan to form multiple-item scales. They would not be the same--just similar, getting at different facets of the same theme or at the same issue in slightly different ways.) Ask colleagues to help you. Also, begin to think about which common response scale(s) you wish to use and begin to cluster items by scale.

Some surveys use multiple scales while others only use one. The agreement scale seems to be the most popular, followed by the satisfaction scale. Note that with slight rewording, items can be modified to accommodate different scales. The same wording can be used for agreement and extent scales.

Put Together an Initial Draft Survey

You may have already been developing and refining items using a computerized authoring system. If not, this is the time to begin to put the survey together in a way that approximates its final format. After you refined the surviving items and clustered them by a common scale, if applicable, add other survey components. Develop a cover page (optional), a cover letter (optional but recommended), introductory comments and directions, and background or demographic items. Identify items that should logically be grouped together (i.e., other than simply on the basis of scale used) Companion items differing only by a word or a phrase would be an example. Tentatively identify and name the parts of your survey. Usually background items are placed before more general attitudinal items as Part 1. I recommend this approach. However, some authors put demographic items last. Add a comments section after your items and a thank you and return reminder. If desirable and feasible, provide opportunities for item-specific comments after each item or after selected items. Item-specific comments are more feasible on automated surveys.

Finalize Your Draft

Share your draft survey with your colleagues and client. Have them help you refine it and cull out additional items. This is usually a multiple-stage process. For instance, six iterations were used to develop the **USAF Medical Service Objective Medical Group (OMG) Survey**. If you are going to automate your survey and have not used a computer-based authoring system to create it, this is the time to transform it from paper-and-pencil to automated form.

Pretest Your Final Draft

After your colleagues and client have looked over your survey and helped you get it into final shape, pretest it. Have your colleagues and client take the survey and record how long it took them to do so. On the basis of actually having taken the survey, ask them to offer suggestions for further improvement.

Having colleagues and your client pretest the survey is good, but not sufficient. Have about 50 to 100 people take your survey who are representative of the target population (your intended respondents). Time how long it takes them to complete it. After you have administered it, interview them. Abbreviated guidance on interviewing, extracted from the author's **Guidelines for Conducting Interviews** (Watson, 1997), is provided as Appendix J. Probe to see if the your items and directions are clear, if survey length is acceptable, and if any items are offensive or too intrusive. Ask pretest participants if they believe the right items have been asked. Ask them also to suggest item modifications or additions. Have them suggest other ways to improved your survey. Suggestions concerning the questions to ask in a pretest interview are provided in Appendix K.

Suggestions for improvement are not a sign of failure on your part. Be open to constructive criticism without being defensive. It would be unreasonable to think you could construct a flawless survey on your own. You are not the subject matter expert. These people are your partners. Listen to their suggestions and include those which appear reasonable.

Construct Your Final Survey

On the basis of the feedback you receive from colleagues, customers, and representatives of your target population, develop a final survey, paying attention to detail. Now is the time to make sure you are consistent throughout, that all typographical and spelling errors have been eliminated, and that the survey is attractive and professional. If you automate your survey, make sure it works, not only on your system or area network but also on other systems and networks. Make sure branching occurs as planned and that bugs are worked out.

Request Approvals or Exemptions

In addition to approval from your customer and your own organization, you may need additional approvals or exemptions as discussed below.

Headquarters Air Force Personnel Center (HQ AFPC) Approval. Air Force personnel who are conducting a survey extending beyond their local organization or base need to coordinate their survey with the Headquarters, Air Force Personnel Center (HQ AFPC). This office conducts Air Force surveys, protects people from being over surveyed, acts as survey

consultants and provides quality control for Air Force surveys. Their address is HQ AFPC/DPSAS, 550 C Street West, Suite 35, Randolph AFB, TX 78150-4737. Their phone number is (210) 652-5680 (Defense Switching Network or DSN prefix: 487). People in this office can help you with all aspects of survey research and you may even arrange for them to conduct a study for you. Typically, however, they review your survey and provide suggestions for improvement. Once they are comfortable with it, they assign a survey control number (SCN) with an expiration date. More information on Air Force surveys is contained in Air Force Instruction 36-2601.

If you are interested in other survey resources, Bradburn and Sudman (1988, Chapter 4) provide a good list of professional survey organizations in government, the private sector and academia. Although the list is not exhaustive, it is extensive.

Office of Management and Budget (OMB) Clearance. If you are in the Government and want to survey respondents who are not Government employees, you will likely need to get a clearance from the Office of Management and Budget (OMB). This process can be time consuming.

Institutional Review Board Exemption: To protect subjects from possible mistreatment in experiments, Institutional Review Boards (IRBs) have been created in the Air Force and elsewhere to provide ethical review of proposed research and oversight of research in progress. See Sieber (1992) for a more detailed discussion of IRBs.

Anonymous surveys in which names or other personal identifiers are not requested are usually exempt from scrutiny from such boards. This is despite the fact that individual respondents can sometimes be identified from their unique combination of demographic data. Although Air Force anonymous surveys are exempt, Air Force researchers need to formally ask for exemption from local review boards such as the Advisory Committee for Human Experimentation at Brooks Air Force Base. The use of human subjects in research is discussed in AL Instruction 40-1 and in AL Handbook 40-1.

Chapter 10

Data Analyses and Results Reporting

Prepare to Perform Analyses

Clean Up Optical Scan Sheet: If you use a scan sheet, or a scannable survey, make sure the guidance you provided concerning how to mark responses in a machine-readable way was followed. If not, correct the sheet or booklet, or accurately transcribe responses onto a new form. For instance, was a pencil used? Was the sheet folded or stapled? Are the ovals or bubbles filled in darkly enough to be optically scanned without difficulty? Are there stray marks (if so, erase them)? Do the marks wander far outside the ovals (if so, erase that portion which is outside)? Are there clear signs that some participants did not respond seriously (see Perform a Veracity Check below)? If so, do not include data from those sheets or surveys in your analyses.

Perform a Veracity Check: Regardless of whether or not you used an optical scan sheet or a scannable survey booklet, you need to identify those respondents who did not take survey completion seriously. Most people who do not want to take your survey simply do not respond. However, some do not take the survey seriously and provide responses that are not trustworthy. Naturally, you are not always sure if this is the case, but try to identify these people and do not enter them in your data base.

How would you do this? Either visually or with the aid of a computer, identify respondents for whom you would answer yes to the following questions. Did some participants respond only to a few questions and then stop? Did some provide a repetitious response pattern like zigzags? Did the responses of some people vary little or not at all? Did you get profanities about you or your survey in the bubbles of the answer sheet, or scrawled on it is some other way? Did some respondents provide inconsistent responses, such as very different responses to nearly identical items? If you included a valid "lie scale," were there clear indications of probable deception? Did some respondents fail to shift their response pattern when they came upon negatively worded items?

CATI telephone interviewing technology quickly alerts interviewers about inconsistent responding while the interview is in progress. Thus, the interviewer can probe to clear up the inconsistency and determine if it was accidental or intentional.

If you did not use an optical scan capability or computer and instead transcribed responses marked on the survey itself, there is another kind of veracity check to perform. This one concerns accuracy rather than honesty. Have a person who did not perform the original transcription check the data for accuracy since transcription is monotonous and mistakes could have been made.

Scan Sheets and Create a Data File: Create a data file suitable for performing your analyses if it has not already been done. Also, separate data suitable for qualitative analysis from data suitable for quantitative analysis. For example, create separate files for comments, for narrative responses to items and for data from items using non-narrative response scales.

Separate and save narrative comments on your general comments page or comments pertaining to specific items. Save these on paper, in your computer, or on a disk in an organized,

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orderly fashion. For instance, if you know that a stack or computer folder of comments came from a particular site, label the group accordingly and keep these comments separate from comments from other sites. If you are using an automated survey, you have the advantage of not needing to transcribe written comments to a computer data file or of not having to make sense of them without transcription. You will use these comments later in qualitative analyses.

If you used an optical-scan approach, scan your sheets and create a data file for quantitative analyses. If you used automated suryey technology, a data file formatted to be compatible with standard statistical analysis packages may be created automatically. Keep in mind that survey disks should be checked for viruses when then are returned. If you used a paper-and-pencil survey without an optical scanning capability, enter your data into a computer file yourself. When you create your data file, save a copy on a separate disk. Make the format as compatible as possible with the data analysis software you intend to use.

Select Software for Data Analysis: There are many computer-based, commercial software packages available to help you analyze your results and provide briefing slides or graphics. For instance, there is SPSS for Windows (Norusis, 1993a, 1993b) or EQS from BMDP (Bender, 1993a, Bender & Wu, 1993). Select and familiarize yourself with the package you wish to use. Ask for assistance, if necessary, from someone who knows the package well. Sometimes, analysis programs are created in-house (by computer specialists in your organization or firm). However, unless you have a special need, it is usually best to use commercial-off-the-shelf (COTS) technology. Don't only be concerned about the ease of processing your data. Also concern yourself with how well your software produces output that can be easily understood and interpreted. For instance, can it array the data that you want to compare on a single page or a few pages, or do you have to use several different reports for the comparisons that are relevant to you? You do not want to waste your time or your customer's time. Therefore, user-friendly output is critical. You may also want to provide your customer with the capacity to analyze the data themselves in whatever manner they want. However, if you do this, be sure that confidentiality can not be breached.

Recode and Reverse Score if Necessary: Before you begin your analyses, you may need to recode responses if your response scales used letters since you need numbers to perform computations. Note that this would be unnecessary if you want nothing more complex than simple frequencies and percents of people responding to each option or an aggregate response to multiple options (e.g., percent "Agree"). If you have not used letters or numbers (unnecessary on an automated survey) you should usually assign numbers to responses. If you have used negative items, you will probably need to reverse score them. This is done to make interpretation easier (for instance, so that high scores on individual items signify desirable outcomes). It is also done so items can be properly weighted when combined with the responses to positively worded items for calculating multiple item scale scores.

If your responses are coded as letters (alpha coding) convert your A, B, C, D etc. to numbers (numeric coding) such as 1, 2, 3, 4, etc. Usually the more of something you want, (like agreement with something considered good or positive) the higher the number. Remember also that negatively worded items are usually reverse scored ("Strongly Disagree" being assigned the highest number) since agreement with such an item is not positive.

For instance, consider the following response scale and items:

> Use the scale below to indicate your agreement or disagreement with each of the following statements. If you don't know, or a statement is not applicable to you, mark response "G."
>
> | A | B | C | D | E | F | G |
> |---|---|---|---|---|---|---|
> | Strongly Disagree | Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree | Don't Know or Not Applicable |
>
> 1.   OMG has succeeded in establishing integrated teams who work well together.
>
> 2.   The OMG structure **cannot** be implemented successfully without providing additional personnel.

The "A" through "F" alpha response scale would be recoded numerically as "1" through "6" or "6" through "1" depending on the positive or negative wording of the item. For item 1 in the example above, the coding would be "1" for "Strongly Disagree" and "6" for "Strongly Agree." For item 2, the coding would be "6" for "Strongly Disagree" and "1" for Strongly Agree." The "G" escape option would be reported separately as a percent selecting this option and excluded from further analysis. Sometimes it is treated as a neutral response and recoded "3.5" (for the midpoint of this 6-point scale) in analyses involving central tendency or prediction. However it is not a neutral midpoint, and is not positioned as one on the scale. Thus, this technique is discouraged.

When you decide to reverse score or not, think in terms of "goodness" or desirability from the perspective of your client. If you do decide to reverse score, high scores represent positive (desired or good) attitudes; low scores represent negative attitudes (which are not desired). Note that having negative attitudes is not necessarily bad. For instance, from the perspective of the respondent, it is not bad to have a negative (realistic) view of a dysfunctional situation or to negatively evaluate poor leadership. But your client would consider a dysfunctional situation or poor leadership to be undesirable.

Sometimes it may be unnecessary to reverse score. Doing so or not depends on your use of the information and how it is presented. When you do reverse score, indicate that you have done so. If you do not reverse score, explain that scores will have different meaning depending on the wording of the item.

Construct Multiple Item Scales: When you perform analyses, some of them will be at the item level. However, you need not limit yourself to item-by-item analyses. You can combine items that conceptually or empirically belong together by summing the scores to the items and dividing by the number of items (i.e., by computing the "average" or "mean" value for the cluster of items). Then you can compute other scale score descriptive statistics such as the mean, standard deviation or range.

Scale in this multi-item form is defined in terms of multiple items being combined to form a scale, rather than verbally anchored points along a response scale continuum. For instance, you may have a construct or theme called "Communication" measuring the free flow of communication in multiple directions and across multiple organizational units. Say it is measured by four items. For each respondent, you would sum his or her individual responses to

each of the four items and divide by four to produce the respondent's score of the organization's "Communication." If he or she left an item or items composing this scale blank, you can either divide by only the number of items in the scale for which the person provided responses or substitute the midpoint of the single item scale for each missing response and then divide by four.

> If you perform inferential analyses, you can determine if your original (conceptual) selection of items to form scales was justified empirically using factor and internal consistency analyses. You can then form refined, empirical scales based on this information and use them for inferential model testing.

Multiple item scales provide an example of when reverse scoring is necessary. It would not make sense to include positive and negative items in the computation of a scale score if you did not reverse score the negative ones to put them both on the same metric.

Quantitative Descriptive Analyses and Results Reporting

Especially in management consulting or program evaluation situations, it is wise to **keep your analyses and results reporting simple.** Descriptive statistics such as means, standard deviations, frequencies and percents can be computed for the total group. (See Norusis, 1993a, for software package guidance.) However, you will probably also want to perform analyses and report results on various subgroups, usually based on background (demographic) data. Descriptive statistics may be all you need in most situations. If you do compute inferential statistics, keep your reporting of these statistics simple also. Sometimes demographic subgroups are aggregated so your subgroups are not too small

Why should analyses and results reporting typically be kept simple when reporting to a non-academic client? Senior leaders are busy people who do not want their time wasted. They also want to quickly comprehend information provided to them and understand the recommendations that follow from these data. Percents are easier to comprehend than frequencies. Thus, simple percents graphically presented as histograms or pie charts contrasting different subgroups may suffice. Aggregated responses to a single item can even be presented. For instance, you can present aggregate agreement (combining the percent responding to those options indicating agreement--the fourth, fifth and sixth options on the author's 6-point scale). This information can be included in an executive summary or provided to your client in a briefing (a formal oral presentation with slides).

Information on percent agreeing or percent responding to each response category should be supplemented with additional descriptive statistics. Means and standard deviations on individual items or on items combined to form scales are common descriptive statistics which can be meaningful to your client. This additional descriptive data can be presented in briefings or executive summaries. However, too much of this kind of information may overwhelm busy clients who are not used to analyzing and interpreting such data. I have often provided clients with notebooks containing more detailed descriptive statistical summaries. Data in these notebooks usually provide unaggregated response scale data (typically item frequencies, percents, means and standard deviations). Keep in mind, however, that data should remain aggregated in terms of individual responses being combined with those of others at a level that prevents disclosure of individual identities. Depending on the sophistication of your client, such

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a notebook may also contain a brief tutorial on how to examine and interpret this information. For instance, these simple tutorials can explain the meaning of measures of central tendency (usually the mean) and the population distribution under the normal curve. They should also explain the meaning of a standard deviation. For instance, you could state that about 68% of all responses fall within plus or minus one standard deviation in a normal, bell-shaped distribution which data from large, well-selected samples usually approximate. Although these notebooks may not get much use, this information should be made available for customers since some of them may want more detail.

Do Survey Scales Provide Interval Data? I was recently asked if survey data could be considered interval data and if it is legitimate to perform statistical analyses on such data using techniques which, at least in theory, require interval data. He responded by saying that the distances along the Likert scale continuum between verbal anchors is probably not in equal intervals although it is usually intended to be. The unequalness of the intervals would be increased if the verbal anchors marking their boundaries are poorly worded. However, I agree with Nunnally (1978, p. 17) who argues "...it is permissible to treat most of the measurement methods in psychology and other behavioral sciences as leading to interval scales (and in some instances ratio scales)." He goes on to say that "...usually, no harm is done in most studies in the behavioral sciences by employing methods of mathematical and statistical analysis which take intervals seriously." This includes measures of attitudes and personality. The implication is that most statistical analysis methods are robust to violations of the interval data assumption.

Quantitative Inferential Analyses and Results Reporting

You may want to pursue a more academic approach and perform inferential analyses in addition to descriptive ones. Even if you compute inferential statistics, keep results reporting simple for non-academic audiences. However, if reporting in a journal for an academic audience, a more elaborate presentation would be expected. This may include graphic depiction of the model you are testing and coefficients indicating the degree of association or prediction.

In inferential analyses you determine association, for instance, by computing the correlation between items or clusters of items (multiple item scales). If the correlation is high, there is a strong association. This indicates items are tapping the same or a closely related construct, or that one construct (often measured by multiple item scales) is related to another construct. Inferential statistics are also used for prediction and model testing in multivariate analyses using techniques such as **multiple regression or structural equation modeling** and software such as **EQS or LISREL**. (See, for example, Bentler, 1993; Bentler & Wu, 1993; Cohen & Cohen, 1983; Kerlinger & Pedhazur, 1973; or Norusis, 1993b.) Here you determine the degree to which various independent or predictor variables "account for the variance" in one or more criteria (the dependent variable or variables). By accounting for a substantial amount of this variance, which can be attributed to, or explained by, your predictor variables, you are demonstrating the **validity** of your instrument and the constructs it measures. These kinds of analyses are used to test research hypotheses or determine the veracity of conceptual models of the phenomena being studied. Researchers consider themselves successful if their measured constructs (which define an implicit or explicit model) increase the explained variance in a criterion more than other investigators have been able to do. This kind of predictive validity is not the only form of validity. For some applications even **face validity** (consensus that the items appear to measure the construct) may be sufficient.

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For most model testing applications, multiple items are combined to form scales or "operationally defined constructs." Earlier, identifying themes and writing items to tap them were discussed. The items you write to measure a theme, and the manner in which you combine them to form a scale, constitutes your conceptual operational definition of a construct. However, without further assessment, you do not know if the items actually hang together (measure the same underlying construct) empirically. To determine this, you can use two analysis procedures. You can perform **factor analysis** to identify items which cluster together empirically (see, for example, Child, 1970 or Gorsuch, 1983). You apply labels to these item clusters and see if your conceptually determined constructs (item clusters with a name you originally chose) are the same as your empirically determined constructs (item clusters with a name derived from factor analysis). Of course, there are bound to be differences. However, if you were close, you did a good job. You can also compute a "**coefficient alpha**" to determine internal consistency reliability, the most commonly used index of **reliability** (the consistency of a measure) in survey research. With this technique you can strengthen your empirical constructs by determining which items to delete to **increase** alpha. When you use inferential techniques to test models of societal or organizational behavior, you use your empirically derived constructs rather than your initial conceptually derived ones. You can also compute descriptive statistics such as means for these multi-item constructs by summing the individual item scores and dividing by the number of items.

If you are reporting results of inferential analyses for an academic audience, you may want to provide elaborate statistical summaries of coefficients and graphic depictions of your conceptual and empirically determined models. You may also want to document your research in a journal article or technical report. For a senior leader audience in the Air Force or a business organization, this would be overkill. When reporting to an executive audience, simplify your presentation. Avoid academic jargon. Focus on the implications of what you have found for management practice and provide clear, practical recommendations. Report your findings using multiple modes of presentation: informal conversations with management, executive summaries and formal briefings.

Qualitative Content Analyses and Results Reporting

You will likely have general comments pages returned from many of your survey participants. These will contain brief statements to extended narratives. You can perform a **content analysis** to identify themes and subthemes in these data. You may want to do multiple content analyses, for instance, on your general comments data and on item-specific narratives if you provided that option to respondents. This process is not sophisticated, but you can derive useful information from it. For an extended description of content analysis see Patton (1980, pp. 299-326 and Appendix 9.1).

First, identify or highlight what you consider to be interesting or important content. Then look for themes and subthemes with the eventual intent of creating a taxonomy of issues. As your theme and subtheme taxonomy begins to emerge from your data, write down an outline of themes, like a table of contents. Expect this outline to grow and change as you gain understanding. To make your task easier, you can assign numerical codes to your themes and subthemes.

It is a good idea to input your narratives into a computer. This will allow you to search for key words or to move your narratives around as you begin to identify themes. However, before doing anything that might alter your data file, keep an intact copy of your original comments pages and transcriptions. It is always a good idea to save "raw data" since you may want to start from scratch. It also documents your starting point should there be a question about your data later or should some other researcher want to perform additional analyses (under strict ethical safeguards). With the original data safely stored away, you can then use scissors or your word processor's cut and paste capability to cull out unimportant content and combine narratives covering particular themes or subthemes.

> Computerized Semantic Analysis. Computerized semantic analysis procedures could be used to identify common themes in a content analysis of computerized comments or notes. Such a procedure matches on the meaning of words (nouns, verbs, etc.) or phrases. The procedure has been used by scientists at the Armstrong Laboratory to determine the similarity of tasks when occupations are combined, thus requiring the merging of task lists.

People may criticize content analysis as unscientific since it is imprecise and, in part, an art form. The themes you identify may not be the themes others would select based on the same input. To make your process more rigorous and less subject to criticism, have several people participate. At first they would independently identify important content and the themes and subthemes it contains. After each person goes through this process, collectively discuss the themes identified and their basis for them and begin negotiating and consensus building to develop a taxonomy everyone can agree upon.

When you report the results of your content analyses to your client, you can report themes in narrative fashion in either original or summarized form. You can also count the frequency with which different topics are mentioned and the percent of people mentioning the themes. When reporting to your customer, you can even quote some of the most representative comments on critical themes, even if you originally summarized this information. When you summarize what others have said, you risk interjecting your own meaning. Thus, it is a good idea to supplement summaries with representative quotations.

> **Additional Analyses**
>
> **Cross-validation**: Sometimes, to test the generalizability of results across samples, cross-validation is used. In this procedure, weights (for instance, from a regression analysis) from one sample are applied to another sample. The other sample can even be a subset of your whole sample. The objective is to see if the variance accounted for by your predictors remains about the same. This procedure would not need to be used in most survey work for management consultation purposes.
>
> **Bias Analyses**: You may want to determine if the responses you received appear to be representative of your target population; that is, they are not biased because they were obtained from an unrepresentative subset of it. If you know the identity of respondents and nonrespondents, you can determine the demographic profile of each of these groups and compare them. Demographic profile, as used here, simply means the percent of people in each demographic subcategory. Are they similar? If not, you may have bias. Usually you do not

know precisely who did not respond. In this case you can compare those who did respond with the total target population and see if their demographic profiles are similar.

An automated survey can help reduce bias because it can facilitate identification of people who did not respond and distribution of a follow-up message or follow-up survey. Since an automated survey can easily track response or non-response, it can aid in bias analyses.

Multiple Time Assessment

Data analysis of either a qualitative or quantitative nature is not necessarily a one-time event. You may want to assess changes in attitudes or behaviors over time. You may be interested in assessing improvements in performance or in acceptance of a product or service. You may be evaluating the effectiveness of a program, product or service before and after you intervene to improve it. This is sometimes referred to as "quasi-experimental designs" using Time 1- Time 2 assessments (Campbell & Stanley 1963, Cook & Campbell, 1979) and it is an approach often used in program evaluation and marketing research. Sometimes programs or products are assessed while they are undergoing improvement. At other times they are evaluated after they have been refined as much as they are going to be. This is the distinction between formative and summative evaluation. Also, in any kind of multiple time assessment, researchers are not just interested in the results at any given time, but in comparing and contrasting results across time, looking for improvements or trends.

A tendency people new to surveys have is to misinterpret any change across time as an important change. For instance, I was once asked to help interpret trends from the results of two major command quality surveys taken about a year apart. Command personnel thought they had identified significant changes, some of which were disturbing. The changes across time were so minor that I advised command personnel to interpret the results as natural statistical variation that was of no practical consequence. This interpretation might also apply to small differences in characteristics of large samples which may be satistically significant but of little practical significance.

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Postscript: By-Chapter Summary of Recommendations

Data gathering Method (Chapter 2)

Don't automatically select a paper-and-pencil survey. Consider other forms of surveys like an automated survey or a telephone interview. Even consider other methods such as a face-to-face interview. Select the method most suited to your needs.

Motivating Participation (Chapter 3)

Take steps to motivate participation to increase response rate. Explaining the importance of the survey in a cover letter or in introductory comments is particularly important, as is emphasizing the voluntary nature of the survey and your commitment to confidentiality.

Survey Ethics (Chapter 4)

Since you create the conditions for unconstrained speech and may gather information about potentially offensive attitudes or behaviors, or even illegal actions, you must always protect your respondents from harm.

Ensure that participation is voluntary and don't use coercion to get people to respond to your survey or to any part of it.

Maintain confidentiality. Never share an individual respondent's data with anyone without his or her informed consent, except for comments data which may be transformed verbatim (with references to specific individuals removed). Only share **aggregated** information with management (or other clients). Your aggregation should be sufficiently large that specific individuals would not be identified by their demographic characteristics. Prevent unauthorized access to your raw data.

If your ethical responsibilities place you in conflict with organizational or societal expectations, explain the basis of your ethical position and try to resolve the issue in a way that is consistent with professional ethical standards.

Limit content that is very objectionable or intrusive, if possible. If you must include such content, be sensitive to how such items are worded, emphasize confidentiality, and always allow respondents to not respond without the threat of adverse consequences. Substitute specific questions pertaining to the respondents themselves with more general attitudinal items pertaining to the objectionable issues.

In surveys used for evaluation purposes which could result in the denial of an opportunity (for employment, promotion, etc.), avoid asking for information which could be used to discriminate against individuals on the basis of some unfair personal characteristic such as age, ethnicity, race, gender, marital status, or religion. Such items are often illegal.

Avoid asking questions regarding specific job-irrelevant organizational affiliations since legal precedent protects organizations and their members from the forced disclosure of such information since it could be used to harm the members. Substitute more general attitudinal items pertaining to the organizations of interest or their members.

If the survey developer does not follow the ethical guidelines discussed, prospective survey participants have the right to refuse to complete the survey. Alternatively, they could skip items they consider objectionable or too intrusive.

Sampling (Chapter 5)

Make your sample as representative of your target population as possible, either through random sampling or purposeful sampling. If necessary, oversample underrepresented groups.

Ensure that your sample size is sufficiently large to make up for nonresponse and to allow you to have confidence in total sample and subgroup analyses.

Survey Format Decisions (Chapter 6)

Select the most appropriate type of survey for your own needs. If you choose a paper-and-pencil survey, decide if you want an optical scanning capability.

Write your survey to the reading level of your intended respondents. Eliminate any language barriers, if necessary, by creating foreign language versions or by providing translators.

Select the background or demographic information you will need to perform meaningful subgroup analyses.

Divide your survey into meaningful parts. Do not cluster all items measuring the same construct together.

Item Construction (Chapter 7)

Decide what kinds of items you wish to use: items with narrative responses, items with item-specific responses, or items with common response scales. Use a mixture if you wish. Use items with common response options as much as possible to make the survey easier to take.

A Likert scale format is recommended, although other scale forms, such as the semantic differential, are also acceptable.

For items using common scales, a 6-point scale with an escape option and no neutral midpoint is recommended.

Providing verbal anchors at multiple points along a scale continuum is recommended rather than just providing anchors at each end.

Be open to improvements in scaling techniques that are made possible with computers. For instance, continuous scales where respondents can select any point along a continuum will probably replace categorical scales in the future.

Research needs to be conducted on improving scaling techniques.

An "escape option" is recommended in most instances to allow respondents to indicate that an item is not applicable, or that he or she does not know how to respond to it. This option, which is not a part of the scale, should be visually apart from the scale continuum. Thus, if a graphic scale is used, the line representing the response continuum should not extend to the escape option.

Assigning numerical values to the escape option as if it were a neutral midpoint response for analysis purposes is **not** recommended. For example, do not transform responses to the escape option into a score of 3.5 on a 6-point scale.

Keep your items short and as simple as possible.

Make sure your item responses are mutually exclusive (non-overlapping) and exhaustive (they cover every possible option, even if just with "Don't Know or Not Applicable," "Other" or "More than" or "Less than" response categories).

Don't mix apples and oranges; that is, each item should cover one topic rather than multiple topics or facets of a topic.

Don't be too vague in how you write your item and try to tap directionality. For instance, if you ask an item about leadership, be specific about how leadership led to a valued outcome. Also, try to determine if your respondent wanted more of something or less of it, so you will know what action to take to address his or her concern. For instance, does a person want more responsibility or less responsibility? Do not assume you know the direction desired or you may be imposing your value system on the respondent.

Include negative items in your survey to break a tendency toward an "acquiescent response set" and to let the respondent know you are in touch with the issues and are not trying to put a positive spin on the results.

Include items only on topics your client can do something about. Otherwise you waste the respondent's time and may unrealistically increase expectations.

Keep your items relevant to your purpose. Otherwise you are wasting the respondent's time. This is especially true if the items are overly intrusive. If you ask an intrusive question you have no need to know, you go beyond just wasting time to inappropriately invading privacy.

If you must include objectionable or intrusive items, phrase them in a way that will be more acceptable to respondents. For example, instead of asking respondents about their specific behaviors or attitudes, phrase your items in terms of their attitudes toward people in general who behave in that way or who hold certain views.

Comments (Chapter 8)

Always include a general comments section of at least one page at the end of a survey. This will allow people to communicate with you in their words.

If possible, also provide the opportunity for item-specific comments. These can be short narratives. This is quite feasible on an automated survey or in a computer assisted telephone interview.

Provide a thank you message and a return reminder at the end of the survey.

Creating a Survey (Chapter 9)

Identify in advance the themes you wish to measure. Don't just start writing items.

Consult many sources to gather information about what to ask: the literature, scholars, your clients, and representatives of the target population.

See if there are existing items you might use before you begin writing your own items.

At first, just generate as many item ideas as you can without judging their quality. Then cull out the bad ones and refine those with promise.

Put together a draft survey, realizing that you may need to go through several iterations. Enlist the help of your colleagues and pretest your draft. Interview pretest participants. On the basis of peer review and pretest feedback, finalize your survey.

Consider the need to get your survey approved. If you are in the Air Force, you may need to get a survey control number from HQ AFPC. If you are a Government employee and are surveying non-government civilians, you may need OMB clearance. You may also need to get an exemption from an institutional review board concerned with the ethical use of human subjects.

Data Analysis (Chapter 10)

If you used an optically scanned survey or separate scan sheet, make sure it is in good condition for scanning. Correct problems. For example, if the sheets or booklets are not filled out correctly, reaccomplish this task yourself. Make sure you have recorded the person's responses faithfully.

Perform a veracity check to determine if respondents were conscientious when filling out the survey. If this was obviously not the case for some, eliminate these respondents from your sample.

Create a data file compatible with the analysis software you intend to use.

Shift from alphabetic to numeric coding, and reverse score, if necessary (for instance, in most instances where you have negative items).

If you want to perform inferential analyses, construct multiple-item scales. Empirically determine the adequacy of your conceptual scales using factor analysis and by computing internal consistency reliability (coefficient alpha).

As a minimum, perform quantitative descriptive analyses and prepare your results for reporting to clients and others. Keep your descriptive analyses and reporting simple.

If you desire more advanced analyses, perform quantitative inferential analyses. These analyses will be more complex, but may be better suited for an academic audience.

Perform a qualitative content analysis of the data you have collected from your comments pages.

If desired, determine the stability and generalizability of your findings by performing a cross validation.

If you are concerned about response bias, perform bias analyses. One simple approach is to determine if the demographic characteristics of those who responded approximate the demographic characteristics of the target population.

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Appendix A: Cover Letters From the OMG Survey and the FM Career Survey

Dear Air Force Medical Service Member

Last year we implemented a new structure in Air Force Medical Treatment Facilities (MTF's) called the Objective Medical Group (OMG). Changes brought about by this new structure are far reaching and may have had an effect on the quality of your worklife and the quality of medical care your MTF provides. You may view some of these changes and their effects as positive while considering others to be negative.

In my role as your Surgeon General, I am personally committed to providing you with a work environment that 1) satisfies your needs, 2) facilitates rather than hinders your doing your job to the best of your ability, and 3) provides patients with quality care at reasonable cost. To accomplish these goals, I need to know your views about the OMG structure and its implementation to date. By responding frankly to this survey, you will give me and other senior medical service leaders the understanding we need to make improvements.

Although the OMG survey is **voluntary**, I strongly urge you to take it. You will probably be able to complete this automated survey in about thirty minutes. You need not worry about privacy since the survey is also **confidential**. We do not ask for your name or other personal identifying information except for general demographic data needed for analysis purposes. You will be able to comment, briefly on any item, and more extensively in the comments section at the end of the survey. Except for your comments, which will be transcribed verbatim (without personal identifying information), your individual responses will not be shared with me or with others in your chain of command. They will be combined with those of others for analysis purposes.

Please take the time to complete this survey. I hope you find the automated format easier and faster to use than a paper-and-pencil survey. I will provide you with a summary of results and feedback on how we plan to use this information to bring about needed improvements. Thanks for helping to make our MTFs better places in which to work and receive good medical care.

Sincerely

EDGAR R. ANDERSON, JR.
Lieutenant General, USAF, MC
Surgeon General

From the Desk of Mr. Hale

Dear Air Force Financial Management Personnel:

       This survey solicits your views about our financial management career field. We are interested in your thoughts about FM career management, the adequacy of career information, and the availability of senior leaders to answer career questions. We also want to know how you view future career prospects in Air Force financial management. This survey looks at the FM career field in general and is not a Financial Management Career Program evaluation.

       What will we do with the survey results? We will **use them as a guide** when assessing and revising our training programs, mentoring efforts, and career practices. If the results indicate a need, we will develop new programs and practices. So that you know what the results told us, we will **provide you a summary of survey results** in our Comptroller magazine and on our new Home Page on the World Wide Web.

       Although it is voluntary, **I strongly urge you to complete this survey.** I hope that the new automated format makes it easier to take and **I expect that most people will complete the survey in about 30 minutes or less.** You need not worry about privacy since the survey is confidential. We do not ask for your name or other personal identifying information except for some general demographic data that we need to analyze the results. Except for any comments, which will be transcribed verbatim without personal identifying information, your individual responses will not be shared with me or with others in your chain of command.

       Thanks for your help.

                                       ROBERT F. HALE
                                       Assistant Secretary of the Air Force
                                       Financial Management and Comptroller

Appendix B: Introductory Comments and Instructions
from the San Antonio Air Logistics Center Career Planning Survey

The recent changes brought about by the BRAC Realignment and Closure List are far-reaching and extend to all of you and your families. This is a difficult time for you as you begin preparing for your future careers, or for retirement.

To assist you in planning for your future, the senior leadership at the SA-ALC needs to know your views about the BRAC decision and how it may affect you. By responding frankly to this survey, you will give senior staff members vital information that we can use to help you and your fellow workers make a successful transition.

Please take the time to complete this survey. We will provide you with a summary of the results and feedback on how we plan to use this information. Thanks for helping by sharing your concerns and opinions.

General Instructions:

For all but Part 3: Comments, use the general purpose answer sheet provided to respond to this survey.

Mark your responses with a number 2 pencil. Ensure that your marks are heavy and fully blacken the oval. Avoid stray marks or marks that go outside the ovals.

Note: You may want to include examples of the right and wrong way to mark the answer sheet at this point.

This survey is anonymous, confidential and voluntary. Except for possible verbatim transcription of comments (from which personal identifying information will be removed) only grouped data will be shared with management.

Make any comments in Part 3, located on the last pages of the survey.

Do not staple or fold the answer sheet because the scanner may not read the form and your responses would not be scanned.

Once you have completed this survey, return your answer sheet and comments pages to your local survey administrator or by mail directly to the Human Resources Directorate of the Armstrong Laboratory at the following address:

AL/HRMJ
7909 Lindbergh Drive
Brooks AFB, TX 78235-5352
Attn.: Dr. Tom Watson

If you have questions, or comments contact your local survey administrator.

Appendix C: Rights Perspective: Free Speech and Privacy

Overview: Americans have the right to speak freely and surveys can facilitate this. However, unconstrained speech in response to a survey is unlikely unless steps are taken to protect individual privacy. This is achieved by not forcing participation, by making surveys anonymous (or keeping the responses of individuals confidential), and, with few exceptions, by sharing only aggregated data. Survey developers must do these things not only to get accurate data, but also to honor their ethical obligations to respondents. If privacy is guaranteed, respondents are protected from harm and their dignity is maintained. Thus, their motivation to participate and to provide undistorted information is likely to be increased.

The ethical justification for voluntary participation and confidentiality is based on two basic human rights: free speech and privacy, as discussed below.

Guaranteeing Free Speech: Some of our founding fathers considered the Constitution, as originally written in 1787, flawed. They believed it did not sufficiently protect individuals against the power of government. After years of debate, the first ten amendments (the Bill of Rights) were added to our Constitution in 1791 to protect individual liberties (Glasser & Adelman, 1991; Alderman & Kennedy, 1991). Alderman and Kennedy (1991, pp. 13 & 15) explain that these amendments, collectively, "outline the most comprehensive protection of individual freedom ever written;" however, in a 1987 poll, 59 percent of Americans queried could not identify this document. It is not that these amendments **give us** rights. As Glasser and Adelman (1991) indicate, our founders believed such rights as free speech were fundamental rights of human beings. The Bill of Rights was added **to protect** such inalienable rights.

The First Amendment protects religious freedom, freedom of speech (and expression), freedom of the press, the right of people to peacefully assemble, and the right to petition the government for a redress of grievances. (See Text of the Constitution of the United States, 1992, for the specific wording of this and other amendments. For a discussion and description of legal cases pertaining to each amendment, see Alderman & Kennedy, 1991.) It took a long time for First Amendment rights to be realized in practice (Glasser & Adelman, 1991, Chapter 3). However, this amendment helped protect the right of Americans to speak and otherwise express themselves in largely unconstrained ways and to peacefully protest government actions.

In exploring the historical defense of free speech, Alderman and Kennedy (1991, p. 32) cite the views of John Milton, and more recently, Justices Holmes and Brandeis. The basic idea is that people should be free to discuss and debate ideas without the censorship of prevailing doctrine. To paraphrase Homes and Brandeis, in the free market place of ideas, good counsels remedy bad ones. For free speech advocates, the antidote for offensive speech in a free, pluralistic society is counterspeech, not prohibition. As Alderman and Kennedy explain, this view is based on idealism and respect for the principle of free speech, even if you dislike the unreasonable or intolerant views that free speech may unleash. Ultimately, it was thought, good ideas and truth would prevail.

The First Amendment protection of a free press also supports free speech. In a 1964 deliberation over First Amendment protections of a free press, the Supreme Court indicated a "profound national commitment to the principle that debate on public issues should be uninhibited, robust and wide-open" (Alderman & Kennedy, 1991, p. 46).

Permitting free speech does not guarantee it will occur. Despite constitutional safeguards, speech and other forms of expression are usually constrained. Some laws constrain speech and expression. More pervasively, organizational, family, group and societal norms constrain speech to that which is accepted or expected in certain contexts. Fear of harassment or punishment also constrains speech. Thus, much goes unsaid. Much of what remains unsaid could be helpful to parents, teachers, health and social service agencies, politicians, manufacturers, employers, and others who wish to understand and effectively deal with a wide array of organizational, social, and consumer issues. For instance, consider these situations:

- An Air Force commander or a corporate chief executive officer wants to know what personnel practices are disliked by employees and their suggestions for making them better.

- Parents, teachers, and school and community leaders want to know about the nature of gang activities among middle and high school students in their district.

- Politicians and law enforcement officials want to know about attitudes toward and use of illicit drugs in their community.

- Politicians want to know the attitudes of citizens toward the economy, crime, welfare and the environment, and changes in these attitudes over time.

- A manufacturer with slumping sales wants to know how to produce products customers will really want and be more likely to buy.

- Senior military leaders want to know the support they have for a planned deployment a few days away.

In some of these situations, those in the best position to provide information would be unlikely to volunteer it and they would have limited access to decision makers. In addition, without a systematic way to collect information from those who could provide it, the input received may be biased. It may come mostly from those discontented enough to contact the officials--or from their immediate colleagues. In the last situation described, decision makers may not get accurate information rapidly enough.

Protecting Privacy: People have as much right not to speak as to speak. Our founding fathers were sensitive to the right of persons not to express themselves if they wished--to be let alone, having a right to privacy. They had experienced first-hand oppression from a distant government and many early settlers came to America to escape religious persecution. Influenced by John Locke, they also believed in natural or fundamental rights, independent of government and limiting its power (Glasser & Adelman, 1991; The Constitution of the United States: A Commentary, 1982).

Despite the sensitivity of our founding fathers, the Bill of Rights is vague about privacy. As Shattuck (1977, p. 49) notes, "The right of 'privacy of association' and the 'right to anonymity' are nowhere explicitly delineated in the constitutional text." However, there are several amendments which involve privacy interests (see Shattuck, 1977, Kauper, 1990). The courts have established that the First Amendment includes privacy linked to the freedom of association within its "penumbra," that is, in a peripheral, less clearly defined region. The Third Amendment prevents peacetime quartering of soldiers in homes without the owners consent, nor

in times of war, except as prescribed by law. The Fourth Amendment ensures that people must be "secure in their persons, houses, papers and effects against unreasonable searches and seizures." The Fifth Amendment, protecting people from self-incrimination, proclaims that no person shall be "a witness against himself." The Fifth and Fourteenth amendments also protect persons from the deprivation of life, liberty or property without due process of law. The Fourteenth Amendment also prevents the states from denying constitutionally protected rights.

In recent times, the 1965 Griswold v. Connecticut case is famous for helping to establish the right to privacy. Justice Douglas, in a decision involving this case (see Beaney, 1990, p.4), concluded that earlier cases "suggested that specific guarantees in the Bill of Rights have penumbras formed by emanations from those guarantees that help give them life and substance." According to Beaney, Douglas then asserted that the First, Third, Fourth, Fifth and Ninth amendments provide "zones of privacy." As Kaukper (1990) discusses, Douglas spoke of rights that were peripheral (hence the "penumbra" terminology) to those explicitly expressed in the first eight amendments, but without them, the more explicit ones would be less secure.

The Ninth Amendment, is sometimes cited as the most compelling Constitutional amendment dealing with privacy rights because it is generic, pertaining to retained, unenumerated rights that should not be denied. Alderman and Kennedy (1991) discuss the Ninth Amendment almost exclusively in terms of privacy protection, and Shattuck (1977, p. xiv), states:

> "to the extent that historic or novel privacy interests may not be sufficiently protected by the First, Fourth, Fifth, and Fourteenth Amendments, it has sometimes been suggested that they are safeguarded by the Ninth Amendment, which provides that 'the enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage those retained by the people."

There is debate over the applicability of this amendment to privacy. However, in Griswold v. Connecticut, the majority of US Supreme Court Justices invoked the ninth amendment to support the right to marital privacy (Emerson, 1990). In more recent Supreme Court decisions, substantive due process has been used to defend privacy rights (see Alderman & Kennedy, 1991, pp. 321-323 & pp. 387-388). This concept refers to fundamental, nonprocedural, individual rights not explicitly articulated in the Bill of Rights but considered indispensable in a free society.

Although privacy interests were only partly articulated in the Bill of Rights and the legal basis for the right to privacy was clarified only recently in court decisions, this concept has a long history in American common law. In 1890, an article appeared in the Harvard Law Review that created a new chapter (Hixon, 1987) or revolution (Shattuck, 1977) in common law. The article titled "The Right To Privacy" was authored by Warren and Brandeis. (Brandeis later became a US Supreme Court Justice.) They argued that the law must be extended beyond the protection of property and contracts from violation to include protection of the "inviolate personality" (Warren & Brandeis, 1890, p. 205). They also argued that invasion of privacy could create mental pain greater than suffering inflicted by bodily injury. Especially relevant to survey work, Warren and Brandeis (pp. 195 & 198) cited Judge Cooley's 1888 admonition that people had the right "to be let alone" and the 1769 case of Millar v. Taylor in which it was argued that every man had the right to keep his own sentiments and to judge whether they be made public. They concluded:

"The common law secures to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated to others. Under our system of government, he can never be compelled to express them (except when upon the witness stand); and even if he has chosen to give them expression, he generally retains the power to fix the limits of the publicity which shall be given them."

In 1928, Justice Brandeis reiterated and expanded his view in a dissenting opinion concerning the rights protected by the Fourth Amendment. He contended that the makers of our Constitution:

"sought to protect Americans in their beliefs, their thought, their emotions and their sensations. They conferred, as against the Government, the right to be let alone--the most comprehensive of rights and the right most valued by civilized man. To protect that right, every unjustifiable intrusion by the Government upon the privacy of the individual, whatever the means employed, must be deemed a violation of the Fourth Amendment" (Alderman & Kennedy, 1991, p.136).

Alderman and Kennedy (1991, p 136-137 & 377-378) report that almost a half century later the Supreme Court adopted this interpretation of the Fourth Amendment. The Fourth Amendment protects people, not just places, from intrusion and an individual's "reasonable expectation of privacy" should be respected.

As Beaney (1990) argues, legal privacy rights are particularly important as individuals and groups experience increasing and more varied assaults on their inner life and thoughts. He includes the widespread use of surveys (and by extension, interviews) in government and industry as one form of such assault. He suggests that if Congress and government agencies develop a heightened sensitivity to potential threats to dignity and privacy, the need for judicial intervention will decline.

In recent years, however, litigation for privacy rights violations has increased dramatically. This litigation has been initiated by employees against overly intrusive employers (see, for example, Alderman and Kennedy, 1995, pp. 273-320, Privacy in the Workplace). Much privacy litigation is based on torts. Koral (1988, p. 3) defines a tort as "a civil wrong for which the law recognizes the victim is entitled to a remedy from the person responsible." Lawyers have invoked common law principles and federal and state constitutional provisions to successfully represent employee plaintiffs. Between 1985 and mid-1987 there were nearly 100 privacy verdicts against employers and the average workplace-privacy jury award during this time was $316,000 (Hendricks, Hayden and Novik, 1990; Nachman & Ryan, 1994). Alderman and Kennedy (1995, p. 305) report that "Government workers are protected by the federal and state constitutions and certain statutes which often enable them to be more successful than their private sector counterparts when suing their employer." Thus, safeguarding privacy is not only an ethical necessity; it also makes good legal and business sense.

For additional information on legal privacy rights, see Shattuck (1977), Hixon (1987), Hendricks, Hayden and Novik (1990), Murphy (1990) and Alderman and Kennedy (1991, 1995). For a discussion of privacy, confidentiality and the necessity of ensuring voluntary participation and informed consent in ethical research, see Sieber (1992). For a discussion in lay terms of employee rights to privacy, see Schein (1976), Koral (1988) or Nachman and Ryan, (1994). For

a discussion of privacy and invasiveness from the perspective of personnel selection instrument developers, see Mael, Connerley and Morath (1996).

Survey Implications of the Rights Perspective: When the rights to free speech and privacy are combined, a few conditions for effective survey data collection become clear. If you want accurate information, especially about sensitive issues, give respondents the opportunity to **not** respond and create conditions which encourage them to respond, despite possible apprehension, by protecting their privacy. Thus, surveys must be voluntary and individual responses must remain confidential. Surveys facilitate free expression by providing respondents with a safe haven due to their voluntary and confidential nature. Attitudes, beliefs, values, behaviors, and background data that respondents may have kept to themselves can be expressed without threat and without normative limitations if ethical principles are scrupulously followed. That which is personal becomes public in grouped data to provide valuable information while protecting privacy and preventing harm.

Appendix C References

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Appendix D: American Psychological Association (APA)
Ethical Principles and Standards Relevant to Surveys

The principles and standards described below constitute a selective list. Others provided by the APA also apply. Due to their almost legal nature, relevant parts have often been quoted verbatim. However, I have also paraphrased to shorten the narrative. Paraphrasing occurs outside quotation marks or in parenthetical expressions. You need not be a member of the APA or a psychologist to follow these guiding principles. Each time you see "psychologists" substitute in your mind "survey developers."

General Principle D. **Respect for People's Rights and Dignity**. "Psychologists accord appropriate respect to the fundamental rights, dignity and worth of all people. They respect the rights of individuals to privacy, confidentiality, self determination, and autonomy, mindful that legal and other obligations may lead to inconsistency and conflict with the exercise of these rights. Psychologists are aware of cultural, individual, and role differences, including those due to age, gender, race, ethnicity, national origin, sexual orientation, disability, language and socioeconomic status. Psychologists try to eliminate the effect on their work of biases based on those factors, and they do not knowingly participate in or condone unfair discriminatory practices."

Note: The list of cultural, individual and role differences included above is used elsewhere in the Ethics Code and is referred to hereafter as "human differences."

General Principle E. **Concern for Other's Welfare**. "Psychologists seek to contribute to the welfare of those with whom they interact professionally."

General Principle F. **Social Responsibility**. Psychologists are expected to be socially responsible. They "are aware of their professional and scientific responsibilities to the community and the society in which they work and live." They are "concerned about and work to mitigate the causes of human suffering."

Ethical Standard 1.02. **Relationship of Ethics and the Law**. "If psychologists' ethical responsibilities conflict with law, psychologists make known their commitment to the Ethics Code and take steps to resolve the conflict in a responsible manner."

Ethical Standard 1.08. **Human Differences**. Where cultural and lifestyle diversity may affect work concerning individuals or groups, psychologists get the training/consultation they need to provide competent services or they make referrals.

Ethical Standard 1.09. **Respecting Others**. "In their work-related activities, psychologists respect the right of others to hold values, attitudes and opinions that differ from their own."

Ethical Standard 1.10. **Nondiscrimination**. "In their work-related activities, psychologists do not in engage in unfair discrimination" (based on human differences).

Ethical Standard 1.11. **Sexual Harassment**. "Psychologists do not engage in sexual harassment."

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Ethical Standard 1.12 **Other Harassment**. "Psychologists do not knowingly engage in behavior that is harassing or demeaning to persons with whom they interact in their work" (based on human difference factors).

Ethical Standard 1.14. **Avoiding Harm**. "Psychologists take reasonable steps to avoid harming their patients or clients, research participants, students or others with whom they work."

Ethical Standard 4.02. **Informed Consent**. "Psychologists obtain appropriate informed consent...using language that is reasonably understandable to participants." It is obtained freely and without undue influence.

Ethical Standard 5.01. **Discussing the Limits of Confidentiality**. "Psychologists discuss (with participants and clients)..(1) the relevant limitations on confidentiality....and (2) the foreseeable uses of the information generated through their services."

"The discussion of confidentiality occurs at the outset of the relationship."

"Permission for electronic recording of interviews is secured from clients and (participants)."

Ethical Standard 5.02. **Maintaining Confidentiality**. "Psychologists have a primary obligation and take reasonable precautions to respect the confidentiality rights of those with whom they work or consult."

Ethical Standard 5.03. **Minimizing Intrusions on Privacy**. "Psychologists discuss confidential information ...only for appropriate scientific or professional purposes and only with persons clearly concerned with such matters."

Ethical Standard 5.04. **Maintenance of Records**. "Psychologists maintain appropriate confidentiality in creating, storing, accessing, transferring and disposing of records under their control."

Ethical Standard 5.05. **Disclosures**. "Psychologists disclose confidential information without the consent of the individual only as mandated by law, or where permitted by law for a valid purpose....Psychologists also may disclose confidential information with the appropriate consent of the (client), unless prohibited by law."

Ethical Standard 5.06. **Consultations**. "When consulting with colleagues, (1) psychologists do not share confidential information that reasonably could lead to the identification of (anyone) with whom they have a confidential relationship unless they have obtained the prior consent of the person or organization .... and (2) they share information only to the extent necessary to achieve the purposes of the consultation."

Ethical Standard 5.07. **Confidential Information in Databases**. "If confidential information ... is entered into (databases, etc.) available to persons whose access has not been consented to (by the information provider), then psychologists use coding or other techniques to avoid the inclusion of personal identifiers."

Ethical Standard 5.08. **Use of Confidential Information for Didactic or Other Purposes**. "Psychologists do not disclose (in writings, lectures, etc.) confidential, personally identifiable information" without consent. They disguise such information to prevent identification or harm to the individuals involved.

Ethical Standard 6.11. **Informed Consent to Research**. "Psychologists use language that is reasonably understandable to research participants in obtaining their appropriate informed consent." .... "Using language that is reasonably understandable to participants, psychologists inform participants of the nature of the research; they inform participants that they are free to participate or to decline to participate or to withdraw from the research; they explain the foreseeable consequences of declining or withdrawing; they inform participants of significant factors that may be expected to influence their willingness to participate .... and they explain other aspects about which the prospective participants inquire."

Ethical Standard 6.12. **Dispensing With Informed Consent**. "Before determining that planned research (such as research involving only anonymous questionnaires, naturalistic observations, or certain kinds of archival research) does not require the informed consent of research participants, psychologists consider applicable regulations and institutional review board requirements, and they consult with colleagues as appropriate."

Ethical Standard 6.13. **Informed Consent in Research Filming or Recording**. "Psychologists obtain informed consent from research participants prior to filming them or recording them," unless the research involves naturalistic observation in public places and the recording will not be used to identify people or to harm them.

Ethical Standard 6.15. **Deception in Research**. "Psychologists never deceive research participants about significant aspects that would affect their willingness to participate, such as .... unpleasant emotional experiences (etc.)."

Ethical Standard 6.16. **Sharing and Utilizing Data**. "Psychologists inform research participants of their anticipated sharing or future use of personally identifiable research data and of the possibility of unanticipated future uses."

Ethical Standard 6.17. **Minimizing Invasiveness**. "In conducting research, psychologists interfere with the participants or milieu from which data are collected (as little as possible)."

Ethical Standard 6.18. **Providing Participants with Information about the Study**. "Psychologists provide a prompt opportunity for participants to obtain appropriate information about the nature, results, and conclusions of the research, and psychologists attempt to correct any misconceptions that participants may have."

Ethical Standard 6.19. **Honoring Commitments**. "Psychologists take reasonable measures to honor all commitments they have to research participants."

Ethical Standard 6.21. **Reporting of Results**. "Psychologists do not fabricate data or falsify results." They correct or retract significant errors.

Ethical Standard 8.03. **Conflicts Between Ethics and Organizational Demands**. "If the demands of an organization .... conflict with this Ethics Code, psychologists clarify the nature of the conflict, make known their commitment to the Ethics Code, and to the extent feasible, seek to resolve the conflict in a way that permits the fullest adherence to the Ethics Code."

Appendix E: Rights Rationale For Not Asking For
Job-Irrelevant Organizational Membership

In the text, I cite legal precedent for avoiding items about job-irrelevant organizational membership. Here, I provide more elaboration of this view from First Amendment and privacy rights perspectives. The issue involves privacy of association and belief which is protected by law because without privacy protection, first amendment rights could be inhibited (see Shattuck, 1977, Chapter 2, for an extended discussion and numerous legal examples). As discussed in Appendix C, the Court has interpreted the Bill of Rights to include peripheral rights. Thus, the penumbra of the First Amendment includes the right to privacy of association (see Kauper, 1990, pp. 242 & 243).

Organizational memberships can reflect the core of an individual's attitudes, beliefs and values as well as his or her style of First Amendment protected religious, political or social expression. Virtually every group is going to be unpopular with some people in our pluralistic society, regardless of where they are in the political spectrum. Even members of unpopular groups have the right to gather and to peacefully express their views. They have the right to work within the law for reform as they see it. If membership lists get into the hands of potentially hostile parties, rights could be jeopardized since members could be harassed by those who object to their expressed beliefs or to their lawful activities. They could be inhibited from associating due to the threat of public disclosure. Thus, even in the most democratic of societies such as ours, democratic processes at the grass roots could be stifled.

In a case described by Alderman and Kennedy (1991, Freedom of Assembly: Hobson v. Wilson, pp. 69-88), government agents attempted to disrupt, discredit and create discord among members of organizations planning a protest demonstration in Washington DC. A jury found the agents' actions unlawful. The appellate court reduced the monetary award but was clear in stating that such actions were intolerable. It wrote: "Whatever authority the Government may have to interfere with a group engaged in unlawful activity ... it is *never* permissible to impede or deter lawful civil rights/political organization, expression or protest with no other direct purpose and no other immediate objective than to counter the influence of the target associations" (p.86).

Appendix E References

Alderman E., & Kennedy, C. (1991). In our defense: The Bill of Rights in action. New York: William Morrow and Company.

Kauper, P. G. (1990). Penumbras, peripheries, emanation, things fundamental and things forgotten. The Griswold case. In P. L. Murphy (Ed.). The right to privacy and the ninth amendment. (Vol. I, pp. 383-406). New York: Garland.

Shattuck, J. H. F. (1977). Rights of privacy. Lincolnwood, IL: National Textbook Company.

Appendix F: Guidance for Group Survey Administrators

Be aware that your survey may elicit a negative reaction from respondents. If people express their frustration or skepticism, let them do so freely and don't take it personally. Any hostility is not directed toward you. Surveys give respondents an opportunity for unconstrained input and they may want to express their displeasure with the survey itself. Let them vent.

Respondents may also express their displeasure about having to take your survey. Surveys must **always be voluntary** and **confidentiality** at the level of individual respondents **must always be maintained**. Group administration gives you a good chance to motivate participation since you can talk to respondents and address their concerns. However, don't force anyone to take the survey if they desire not to, and don't be nosy about how they responded or what comments they made. Emphasize how individual responses will not be shared with their supervisors or anyone else in their chain of command. Only aggregate (grouped) data will be shared with management. If anyone in your group of prospective participants does not wish to participate, thank them for coming and let them leave without pressuring them or being antagonistic. Also note that if someone agrees to take the survey but doesn't like a particular item, they can skip the item. This is not something you generally communicate up-front, but if they ask, admit they have the right to skip items due to the voluntary nature of the survey.

Group administration affords you with an opportunity to emphasize the importance and purpose of the survey. Explain that it will be used to help rather than to hurt them. Be open to any questions they may have and try to allay their fears. If they need to talk to someone further, refer them to the survey developers.

In a group administration situation give people the option of returning their answer sheet and comments page to survey administrators as they leave the room, or to return the survey directly to the survey developer. Provide an envelop and even address labels for those who wish to return the survey directly via the mail. Remind people not to fold or staple their answer sheets. As people return their answer sheets and comments pages to you **do not look at the sheets or comments pages as if you were interested in how a particular individual responded**. You can even have them place their sheets and comments pages in a pile rather than have them give these materials directly to you.

**Appendix G: Statement of Work for Disk Duplication and Distribution
From the FM Career Survey**

Statement of Work

TITLE: Disk Duplication and Distribution Support for **USAF Financial Management Career Survey**

1. <u>Scope</u>: The objective of this contract is to support the duplication and distribution of approximately 4780 automated **USAF Financial Management Career Surveys** on 3 1/2 inch disks, one survey per disk, in bulk, to points of contact (POCs) at sites throughout the United States, including Alaska and Hawaii. Addresses for people outside the US will be to stateside APOs. General instructions, cover letters and return mailers will be shipped with the automated survey disks.

1.1 <u>Background</u>. Since AL/HRM has recognized expertise in survey development, automation and analyses, USAF SAF/FMBM requested our assistance with a **USAF Financial Management Career Survey**. This survey has been developed and automated (i.e., computerized) with our assistance, and we can create a data tape, analyze these data and interpret/brief results. However, AL/HRM does not have the manpower or capacity to easily duplicate, label and distribute several thousand disks. Once the automated survey is pretested and refined, AL/HRM needs contractor assistance to duplicate and distribute the disks quickly to **approximately 4,780** people in the Financial Management career field. Since disks could be lost in the mail, or their may be a need to send out additional disks to sites with a poor response rate, **up to a grand total of 7,000 disks may need** to be duplicated and distributed. To obtain feedback quickly on important issues, this project is on a very fast schedule: the initial 4,780 or so survey disks are expected to be delivered to POCs within one week of receipt of Government furnished material, except for packages sent to APO addresses which will take longer to reach POCs.

2. Applicable or Reference Documents. None.

3. Requirements.

3.1. Within three weeks of the start of the contract, AL/HRM or USAF SAF/FMBM will overnight mail to the contractor a final, approved USAF Financial Management Career Survey on a 3 1/2 inch high density disk. The contractor shall duplicate this approximately 4780 times using gray disks. The contractor shall check all disks for viruses and remove any viruses that may be present. The contractor shall label each disk. Labels shall be white and of standard-size. Print shall be in black, without a logo, with as big a font size as possible given the size of the label. The text of the label shall be as follows: (Note that the title of the survey is bold.)

USAF Financial Management Career Survey
USAF SAF/FMBM & Armstrong Laboratory

Go to DOS, insert disk into drive,
type letter for drive and a colon (e.g., A:),
hit enter and type "survey"

3.2. USAF SAF/FMBM will provide the contractor with a list of sites, with the names, addresses and phone numbers of survey monitors or points of contact (POCs) and the number of disks to be sent to each site. POCs at up to 70 sites will receive survey disks. At least half of these sites will be receiving a large (but as yet unknown) number of disks. As more information is know it will be provided to PK or potential contractors to aid in cost estimation. Addresses will be quite specific and include a street address and room number wherever possible. This information will be provided to the contractor on a 3 1/2 inch disk as a Microsoft Word or Microsoft Excel document. In addition to POC addresses and other data, this information disk will include general instructions to POCs and a cover letter for respondents. The first of these Government-prepared documents will explain the role of the POC, the purpose of the survey, and provide POCs with specific information about how to distribute the disks and how, where and by when they should be returned. The second document will be quite similar to the cover letter already included at the beginning of the automated survey. The contractor shall print these materials from the disk and copy them as needed. The contractor shall package the disks for distribution to each site (the number of disks varying by site), along with one paper copy of the general directions to POCs and one paper copy **per disk** of the cover letter for respondents. This shall be done in a manner to ensure disks and other materials reach their destination undamaged. If damage is reported, the contractor shall send replacement materials. The contractor shall duplicate additional disks and replace and reship any lost packages. If directed by the Government the Contractor shall also duplicate and ship additional disks to selected sites (gain up to the grand total of 7,000 disks) if response rate at any site is found to be poor (less than 50% return). If this is necessary, address label each package and make shipping arrangements to ensure that the packages arrive at their destination within 72 hours or 3 days. (Packages shipped to APO addresses will take a few weeks to reach their final destination. Therefore packages for APO destinations shall just reach their APO addresses within 3 days.) Packages shall be shipped in a manner that allows the shipping route, the time of arrival, and the receiving person to be monitored in case a shipment gets lost. The contractor shall duplicate additional disks and replace and reship any lost packages if they are unable to be found and delivered within 24 hours of the "3 days to destination" requirement. If necessary, the Contractor shall also duplicate and ship additional disks to selected sites (again up to the grand total of 7,000 disks) if the response rate at any site is found to be poor (less than 50%). If this is necessary, the costs of duplicating the disks and shipping them once again to POCs will be at Government expense. The contractor shall produce, virus check, package and ship all diskettes such that they are received by the POCs no later than one week after receiving Government furnished materials identified in paragraph 5 (except packages sent to APO addresses which will take longer to reach POCs).

3.3. In addition to shipping the disks, POC instructions, and a cover letter in the shipments described in paragraph 3.2, the contractor shall include in these packages a labeled 6" by 6" return mailer for every disk shipped. Each return mailer shall be labeled with the following address:

Armstrong Laboratory
AL/HRMJ (Attn: Dr. Tom Watson)
7909 Lindbergh Drive
Brooks AFB, TX 78235-5352, USA

4. Base Support. None.

5. Government Furnished Property. AL/HRM or USAF SAF/FMBM will supply the contractor with the following four items on two disks: 1) a final approved automated survey on a separate disk, 2) detailed site, POC address and phone information, 3) general instructions to POCs and 4) a cover letter for respondents. The last three items will be on a separate information disk.

6. Data Requirements. None.

7. Points of Contact

7.1 AL:
AL/HRMJ (Attn: Dr. Tom Watson, Room 319, phone (210) 536-3640 or DSN 240-3640)
7909 Lindbergh Drive
Brooks AFB, TX 78235-3640

7.2 FM:
USAF SAF/FMBM (Attn: Mr. Robert Zook , Room 4 D 120, phone (703) 697-1120 or DSN 227-1120)
1130 Air Force Pentagon
Washington DC 20330-1130

**Appendix H: Guidance for Automated Survey Points of Contact
From the FM Career Survey**

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

Guidance for FM Career Survey Points of Contact
June 1996

You have been selected as a point of contact to help distribute an automated (3.5"
diskette) AF Financial Management Career Survey, with a memorandum to respondents and a
return mailer, to people on your base or in your general vicinity. A list of selected respondents
and their organizational symbols is also enclosed. Disks and cover memos have been placed in
each return mailer to make distribution easier. Each disk contains an almost identical copy of
the cover memo and one survey. This survey is designed to assess the attitudes and knowledge
of military members and civilian employees worldwide on a variety of career management
issues. A sample of about 4,700 FM people will be sent this survey, some of whom are at your
site. Please distribute these disk packets to the people whose names are on the list within the
next few days and urge them to respond rapidly--within five days or less. You should be able to
reach most people through the base distribution system. We have worked hard to avoid sending
you disks that would require re-mailing. If the intended recipient is not available (TDY, PCS,
leave), please pass the survey to someone of equivalent or similar grade and functional
discipline. Respondents should use the pre-addressed return mailer to send completed surveys
directly back to the Air Force's Armstrong Laboratory for analyses.

This survey is **voluntary**. We'd like you to encourage people to complete it, but no one
should be forced to do so or be told the survey is mandatory. If an intended recipient does not
wish to participate, pass the disk and mailer to someone of similar grade and functional
discipline. The survey is also **confidential**. Each disk contains no personal identifier and none
is requested except for a self-generated password used to discourage unauthorized viewing.
Requested background information is intentionally broad to prevent identification. Individual
responses will not be reported to anyone in a respondent's chain of command (except verbatim
comments respondents may provide). Only grouped data will be used for analyses in which
individual responses are combined with those of others for total sample or subgroup analyses.
Subgroups will be formed on the basis of responses to the background items (such as grade or
military/civilian status) in the survey.

Please read the cover letter carefully. We would like you to be familiar with the
importance of the survey to encourage people to take it. The survey offers people a chance to
communicate directly with the senior leadership on important career management issues. Senior
Leaders need responses from across the FM career field to make timely decisions to improve
career management practices. We would like responses to be sent back within five days so we
can begin data analyses, find out what our people think are important issues, and develop
strategies for improving career field management.

Getting into the survey is easy: go into DOS, insert the disk into the drive, type the
drive designation (A, for example) followed by a colon (:), hit enter and type "survey."
Respondents can also go through their file manager to the desired drive and click on
"survey.bat." Other directions are provided in the survey.

Feel free to follow up with survey recipients to see if they have completed and returned the surveys. If they haven't, please encourage them to reply without requiring it since the survey is voluntary. If respondents return disks to you, you may return them in bulk to the address that follows. We would prefer individual respondents to return the surveys directly to the Armstrong Laboratory in the mailers provided. Return any completed survey disks to:

Armstrong Laboratory
AL/HRMJ (Attn.: Dr. Tom Watson, Room 319)
7909 Lindbergh Drive
Brooks AFB, TX 78235-5352, USA

Thanks for your support! Your involvement makes the process easier and gives it important visibility. If you or others have questions or concerns, please contact Major Ron Herpst, SAF/FMBM, at DSN 227-5627, or Dr. Tom Watson, Armstrong Laboratory, at DSN 240-3640. If you are having problems with survey automation, please contact SSgt. David Selander, Armstrong Laboratory, DSN 240-1166. Thanks again for your help.

ROBERT W. ZOOK
Director of Budget Management and Execution
Deputy Assistant Secretary (Budget)

Enclosures
1. Disk packets, each containing 1 survey disk, 1 memorandum to respondents and 1 return mailer
2. List of names and organizational symbols of intended respondents

Appendix I: Examples of Likert-Style Response Scales
(Also see the agreement scale in the text on page 39.)

Example 1: 6-Point Satisfaction Scale With No Neutral Midpoint

Use the scale below to indicate your satisfaction or dissatisfaction with the following issues. If a statement is not applicable to you, mark response "G."

A	B	C	D	E	F	G
Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied	Not Applicable

Note: You could also use a **Much More Satisfied to Much Less Satisfied** scale if you wanted to contrast satisfaction before some intervention with satisfaction after it. See Example 8 in this appendix. Note: since this had to do with personal satisfaction concerning different facets of the workplace, "Don't know" was not used. People could be expected to know their own personal satisfaction with aspects of the work environment. Not Applicable may also not make sense, but was left to provide an escape option.

Example 2: 6-Point Extent Scale With No Neutral Midpoint

Use the scale below to indicate to what extent the following statements about your medical treatment facility are true. If you don't know, or a statement is not applicable, mark response "G."

A	B	C	D	E	F	G
Not at All	To a Very Little Extent	To a Little Extent	To Some Extent	To a Great Extent	To a Very Great Extent	Don't Know or Not Applicable

Example 3: 6-Point Importance Scale With No Neutral Midpoint

Use the scale below to indicate how important each of the following factors would be (for some purpose). If you don't know, or a statement is not applicable to you, mark response "G."

A	B	C	D	E	F	G
Very Unimportant	Unimportant	Somewhat Unimportant	Somewhat Important	Important	Very Important	Don't Know or Not Applicable

Example 4: 6-Point Willingness Scale With No Neutral Midpoint

Use the scale below to indicate your willingness (to do something). If you don't know, or a statement is not applicable to you, mark response "G."

A	B	C	D	E	F	G
Very Unwilling	Unwilling	Somewhat Unwilling	Somewhat Willing	Willing	Very Willing	Don't Know or Not Applicable

Example 5: 6-Point Yes/No Scale With No Neutral Midpoint

Use the scale below to indicate whether you would or would not enjoy participating in the following activities. If you don't know, or a statement is not applicable to you, mark response "G."

A	B	C	D	E	F	G
Definitely No	No	Probably No	Probably Yes	Yes	Definitely Yes	Don't Know or Not Applicable

Example 6: 5-Point Agreement Scale With a Neutral Midpoint

Scales need not have the six points I typically use. And if you wish, you may use a neutral midpoint. Below are three examples. Note that for the satisfaction scales (as in Example 1), I did not include a "Don't Know" as part of the escape option because people usually know if they are satisfied or not with different facets of the workplace.

Use the scale below to indicate your agreement or disagreement with each of the following statements. If you don't know, or a statement is not applicable to you, mark response "F."

A	B	C	D	E	F
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't Know or Not Applicable

Example 7: 4-Point Agreement Scale With No Neutral Midpoint

You may need an abbreviated scale, for instance on a telephone survey where the respondent hears but does not see the verbal anchors.

A	B	C	D	E
Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Don't Know or Not Applicable

Example 8: 5-Point Satisfaction Scale With a Neutral Midpoint

Use the scale below to indicate your satisfaction or dissatisfaction with the following issues. If a statement is not applicable to you, mark response "F."

A	B	C	D	E	F
Very Dissatisfied	Somewhat Dissatisfied	Neither Satisfied Nor Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Applicable

Example 9: 5-Point Satisfaction Scale With a Neutral Midpoint
For Post Intervention Comparison

Use the scale below to indicate your satisfaction now compared to your satisfaction prior to the intervention. If a statement is not applicable to you, mark response "F."

A	B	C	D	E	F
Much Less Satisfied	Somewhat Less Satisfied	Neither More Nor Less Satisfied	Somewhat More Satisfied	Much More Satisfied	Not Applicable

Example 10: 5-Point Excellence Scale

I was recently asked to suggest an "Excellent-Poor" scale for ranking customer service using a telephone survey. Due to the need to keep the scale simple (since verbal anchors had to be remembered rather than observed by the respondent), I suggested use of the following simple 5-point scale:

How would you rate the quality of service provided to you at the (whatever)?

A	B	C	D	E	F
Excellent	Good	Fair	Poor	Unsatisfactory	Not Applicable

Appendix J: Guidance on Interviewing

(Extracted from Watson, 1997, <u>Guidelines for Conducting Interviews</u>)

The Advantages of Interviews

If you need richer information than is possible using a survey, you can get it from a small number of people, and you are not concerned about being able to perform sophisticated quantitative data analysis, interviewing may be your preferred method. Relative to surveys, interviews have a number of advantages, as discussed below.

You Usually are Face-to-Face: Relative to paper-and-pencil mail surveys, or telephone interviews, person-to-person interviews are face-to-face. They are, therefore, more intimate. They provide interviewers with the opportunity to establish a brief social relationship, to observe social dynamics and use them to good advantage, and to observe verbal and non-verbal cues. Interviewers can bond with those being interviewed. If interviewers are kind, sincere, and interested in what interviewees have to say, they may be liked and trusted, creating a situation where people feel free to talk. Being face-to-face facilitates the process of getting people to open up. Being present with those who are interviewed also gives interviewers a chance to observe how interviewees interact--with interviewers, colleagues, friends, family, or strangers. Much can be learned from non-verbal cues, such as posture, facial expressions, hand gestures and level of nervousness or threat. Such input would not be available from a survey and it would be more camouflaged in a telephone interview. The face-to-face interview helps interviewers detect reactions ranging from acceptance and liking to mistrust and cynicism. Interviewers can also gain a sense of openness and honesty or defensiveness and deception. They can also sense the strength and character of participant reaction to the content of the interview--emotionally and intellectually.

Interviewees are Unconstrained in How to Respond: In interviews, unlike in surveys, respondents get to answer questions in their own words. They can also define the question and shape the answer quite broadly. Answers may be more difficult to quantify, but the information obtained is richer and more complete than the knowledge derived from answers to survey items. In addition, participants can provide verbal narrative responses to interview questions more easily than if they had to write lengthy narratives on a survey comments page.

Because responding is unconstrained, interviews are sometimes similar to therapy sessions. Participants can ventilate their feelings and frustrations in a supportive, protective environment. This can help them, while providing the interviewer with rich information.

You Can Clarify and Probe: In an interview, unlike on a survey, the interviewer can follow up immediately on what a person says to clarify and probe for greater understanding. It is this process of exploration that allows the interviewer to tailor questions to responses given to get a fuller understanding of what participants are trying to say.

You Are In A Better Position to Motivate Participation and Establish Rapport: Your role as an interviewer is not only to collect information, but to motivate participation. Because interviewers are usually face-to-face, they are in a better position than a survey developer to explain why participation is so important and to persuade reluctant respondents to take part.

Interviewer Skills and Characteristics

Skills Required of Interviewers

Interviewing requires great skill--both interpersonal and cognitive. Prior to the interview, the interviewer must be able to develop a good sampling methodology and generate good interview questions. These tasks require good research skills. In addition, the interviewer must make arrangements with organizations, groups and individuals to conduct interviews. This requires research skills, political savvy and the ability to relate well to strangers.

Skills required during the interview are particularly numerous. In the interview, the interviewer must be able to do the following:

- establish rapid rapport and motivate participation,
- establish trust,
- overcome unwillingness to speak freely about sensitive topics
- honor the right to not respond and avoid undue pressure,
- value respondents regardless of the beliefs or behaviors they divulge,
- listen actively and intently,
- speak effectively and persuasively, but not too much,
- interpret and respond to a variety of different verbal and nonverbal cues,
- be attentive to both the interview process and content,
- encourage everyone to speak,
- maintain non-coercive control over the interview process,
- accurately record what is said,
- transition effectively from one question or topic to another,
- insightfully interpret, explore, link and paraphrase incoming information,
- maintain neutrality, keeping personal biases and beliefs outside the interview,
- avoid leading questions or distortion of responses through reinforcement,
- take possible abuse without becoming flustered,
- be kind, considerate, and professional at all times, and
- know when and how to terminate the interview.

After the interview, interviewers must be able to complete documentation, analyze and interpret the results, and report results in aggregate form to audiences ranging from those interviewed to academicians. Interviewers must also be able to maintain confidentiality by not disclosing the sources of comments despite possible pressure. Selecting interviewers who already possess, or who can develop these skills, and training them well is critical.

Desirable Personal Characteristics of Interviewers

Some people would have difficulty being good interviewers even with training. Others have characteristics that suit them well to interviewing that may be enhanced through training. Below are personal characteristics I consider essential to a good interviewer.

Ability to Relate Well Based on Genuine Caring: One essential characteristic is the ability to relate well to a variety of people with whom you can quickly establish rapport. You need to have the interpersonal skill to draw people out so they will communicate with you and

with each other. You relate based on a heartfelt concern for the people being interviewed and a desire to understand what they have to say. Thus, you need to be genuinely warm, friendly and interested in the well being and views of those you interview.

Genuine caring connotes concern for the welfare of those you interview regardless of their expressed views or reported behaviors. You may personally disagree with them and not condone their behaviors. However, this does not diminish your concern for their well being.

Kindness and Courtesy: Related to the first point, you have to be kind and courteous and be able to treat everyone interviewed with equality, dignity, and respect, even if you find their views or behaviors offensive.

Empathy: To interview well you must tune into another person's thoughts and feelings. This is the ability to experience and understand at an intellectual and emotional level what another person is telling you, as if you were that person. However, while doing so you remain in touch with your own sense of self. Being empathic is like the ability of an actor to become the person he or she portrays. Empathy probably facilitates the willingness of others to open up to you.

Humility: Humility and a willingness to not steal the show are essential. You may be the interview expert, but those you are interviewing are the content experts and without their feedback you would know little or nothing about the topic you are exploring.

Integrity: If you have integrity, you can be trusted. Thus, if you promise to keep individual responses confidential and not use what is said to hurt anyone, people will believe you and open up to you. To a limited extent you may be able to convey integrity during the interview. Over time, if you develop a reputation for integrity, your credibility as an interviewer will increase.

Enthusiasm, Calmness and Flexibility: You must be enthusiastic enough to communicate the importance of the interview and your interest in it. Yet you need to be calm and able to take abuse while maintaining subtle control without getting angry. Also, you should be flexible to deal comfortably with the unexpected and accept things not going as you planned. In addition, you need to be able to listen to and understand content you may disagree with. You must also be able shift course based on interviewee reaction or the content of the discussion.

Tolerance and Open-Mindedness: It is essential to be tolerant of others and open-minded rather than judgmental. People will not communicate freely and you will have difficulty understanding their perspective if you are intolerant of their views or behaviors. You need to value cultural diversity. Above all, you need to be able to refrain from letting your own views or values interfere with the interview process and your understanding of what is said. During an interview you must not be dogmatic. You must not try to force your views on others or to be critical of what they say. However, your own views and values can help you. Do you believe people should express themselves freely and participate in decision making? Do you value understanding the views or behaviors of others, even if divergent from your own? Do you value gathering information to help others? If so, your skills as an interviewer should be enhanced.

Assertiveness, Articulation and Ability to Listen: You need to have the contradictory qualities of assertive articulation and the ability to be quiet and listen. You must have a good

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sense concerning when to switch from one mode to the other, and you must be comfortable listening most of the time. You also need to be able to reflect back what has been said, to express your empathy and to provide a veracity check on your understanding.

Tolerance of Ambiguity, Intuitiveness and Abstract Conceptualization: Interviewing is an inductive process where pattern and meaning emerge from data rather than being imposed on them beforehand. As an interviewer, you need to be tolerant of ambiguity since you are constantly fitting the pieces of an incomplete, sometimes contradictory, puzzle together. You need to be intuitive and insightful, synthesizing and integrating more than analyzing, while fitting diverse, seemingly unrelated, bits of information together. You must be able to think abstractly, eventually putting the diverse, incomplete, pieces of information together to see the "big picture."

Speaking freely, maintaining privacy and voluntary participation: Interviewers encourage unconstrained speech to gain a thorough understanding of attitudes, beliefs, values and behaviors. Since speech becomes so unconstrained, and since interviews are intrusive, the privacy of respondents should be protected and confidentiality should be guaranteed to prevent harm. If information about specific individuals is disclosed, it should be with their consent.

Voluntary Participation: Potential respondents should be given the right **not** to participate. Interviewers motivate **voluntary** participation by creating a "safe haven" so that most potential respondents will feel comfortable enough to participate. Potential participants will hopefully want to respond (not just feel comfortable doing so) if the interviewer conveys the importance of the interview and explains the positive outcomes that are likely to accrue.

Maintain Confidentiality and Non-Attribution: There is a distinction between anonymity and confidentiality. Anonymity is best, but cannot always be promised. There is a subtle "can not" versus "will not" distinction. If a survey is anonymous, no information is collected which could link data to individual respondents. Thus, a breach of privacy need not be feared. However, it is the author's experience that many people do not trust that anonymous surveys are, in fact, anonymous. Many people believe survey developers have some trick way to identify them. Perhaps this distrust is understandable because survey researchers often **can** link data back to individual respondents or small groups. They can do so directly via an assigned code or indirectly via demographic (background) information. Respondents are often savvy enough to realize you can identify them through background data, and even grouped data can be used to identify them. For instance, during data analysis, you may discover a subgroup's "cell size" is only one or two people. Do not claim that respondents can only be identified through their name, social security number or survey code number. If confidentiality is promised, researchers basically imply or admit they can tie individuals to responses, but promise they will not. Since some people don't even trust anonymous surveys, it has been the author's approach to ignore the anonymity versus confidentiality distinction and to not even argue whether respondents can be identified. He just stresses confidentiality and promises that individual data, except for verbatim comments, will not be released. Over the years, he and his colleagues have gained the reputation they can be trusted.

In most interviews, unlike in survey research, anonymity would be difficult to achieve. Anonymity means no data exists to link responses to individuals. In face-to-face interviews, the interviewer sits with respondents whose identities are usually obvious. In a telephone interview, the phone number could be used to identify, at least, the household or office called. Thus,

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maintaining confidentiality (not linking data to individuals even though you could) is especially critical for interviewers. The phrase "not for attribution" is often used, meaning that comments will not be attributed to the individuals making them.

Assistance From Points of Contact: You may arrange for assistance from interview points of contact (POCs) at different interview locations. They can:

- help gain the cooperation or "buy-in" of management at their site,
- help you identify those to be interviewed,
- schedule the interviews, and
- arrange for a suitable location for the interviews to take place.

Basically, you provide POCs with guidance and they identify your sample and set up interviews for you. The role of POCs is important and it is helpful to establish a good relationship with them. POCs may arrange for your lodging and serve as your host and problem solver. They may locate no-shows and reschedule participants while you are interviewing. They are likely to become interview participants themselves. On the down side, you may not know for sure if your sampling guidance was followed. Also, their dual role as POC and interviewee may place them in an awkward position. They may be considered closely tied to management and a potential threat to confidentially.

Group Interviews: Group interviews allow multiple people to express their thoughts about the issues discussed. They save time since several people are interviewed at once. They provide input greater than the sum of individual contributions had each person been interviewed alone. Synergy is created when people are influenced by and react to the comments of others.

Group interviews can create problems, especially in hierarchical structures. If great disparities in grade or rank exist, or if the head of a group is present, this could result in domination by those who are higher graded or in a position of authority. The presence of such people could also intimidate those lower in the hierarchy. For this reason, it is sometimes wise to exclude mid- or executive-level supervisors from group interviews, and to request everyone be of about the same grade or rank. Of course, some people may try to dominate or intimidate regardless of their rank or position. If you encounter domination or intimidation from any source, engage others in the discussion and do what you can to lessen these effects.

Structure: Some group interviews are quite **unstructured**, allowing participants to interact rather freely with themselves and the interviewer. An example of such a group is called a focus group (see Krueger, 1988; Morgan, 1988; Stewart & Shamdasani, 1990). Focus groups are used extensively in marketing research and for other purposes. In such a group, about 7 to 10 people get together to share their views on a product, service or process. These groups are intentionally permissive to elicit a wide array of opinions. There is no need to reach consensus and you get more insights than from an individual interview since responses spark the responses of others being interviewed. Responses are influenced not only by personal thoughts and feelings, but also by the thoughts and feelings of other participants.

Don't Ask Too Many Questions: Your interview should be short. Otherwise participants may lose interest, or become agitated and eventually decline to continue. Unlike survey items, interview questions are phrased to elicit an extended narrative. Thus, they take time and you will not have time to ask many questions.

Decide How Rigorous or Flexible Your Questioning Should Be: How rigid or flexible do you want your questioning to be? In a pretest situation, you usually keep your questioning very flexible. This would be true if you were just introduced to the administrator of a facility at which you were about to conduct more formal interviews. It would also be the case if someone from a group interview wanted to speak to you individually. Sometimes you need to keep your questions nearly identical across interviews, especially if you have several people conducting interviews and consistency is desired. In such a case you would memorize them, but present them in a conversational manner that appears unrehearsed during the interview. If not, it may be sufficient to develop well crafted questions beforehand and review them just before the interview, writing a few notes to remind yourself of what you want to say. Sometimes, you need just enough question structure to get those being interviewed to begin talking, and then you base follow-up questions (probes) almost entirely on what has been said. At other times, as you gain progressively more information going from one interview to the next, your questions, or how you word them, may change due to your improved understanding of the issues.

Regardless of the rigidity or flexibility of question wording, do not go into an interview blind. Even anticipated conversations should be thought through beforehand. Consider ahead of time what your purpose is, what you intend to get from the interview, and the questions you intend to ask in various situations.

Keep Questions Neutral: How questions are phrased is important. Phrase them in an unbiased or neutral way: one that does not predispose a certain response or suggest a desired answer.

Use Probes to Encourage Elaboration: Interview questions should be phrased to discourage brief responses.

Ensure Understanding Through Clarification and Feedback: Sometimes participants need clarification about what you said. They may not understand the meaning of a question as you phrased it and want elaboration. They may have forgotten what you asked. They may be unsure of the definition of a term you used. Prior to your interview, consider how to clarify or elaborate upon a question, or define a term, so you and other interviewers can do so effectively.

Make Note Taking and Response Coding as Simple As you Can: In addition to writing down interview questions and having them available during the interview, do what you can to make note taking and data gathering simple, fast, and effective. In many situations it is wise to develop a response form that allows you to take notes or annotate/code responses with the least amount of writing.

Preparing Yourself to Interview

Know Your Questions Well: In less structured interviews, such as a survey pretest, you may not care if your questions are exactly the same from interview to interview. You could review your questions beforehand and have an easy-to-follow prompt in front of you while you interview. This prompt could be part of a simplified interview protocol. Instead of, or in addition to the question itself, it could contain a bold phrase to remind you of the question. You should know your questions so well that you do not rely much on your notes. Questions should come freely and sound natural. Do not be a slave to your interview protocol. Retain flexibility and individuality. Probes can help you introduce flexibility and tailor your questions to specific

respondents. Use them to gain greater understanding. You can generate probable probes before going into the interview and include them in your protocol. Probes usually need to be partly improvised to be well tailored to the specific comments of interviewees. They are usually exploratory requests for clarification or elaboration of the prior statements and have to be crafted in the context of the interview itself.

Practice Your Interview: Practice your interview after refining it but before conducting interviews in the field. Have a colleague assume the role of interviewee, or find someone from your target population to sit through the interview. Do this several times. Look for shortcomings in your interview style and for quirky mannerisms (we all have them). Do you ask questions in an easy, conversational manner without stumbling or having to rely too much on your notes? Are you friendly rather than aloof? Do you refrain from showing anger or disdain? Do you avoid leading participants to respond in particular ways? Can you keep yourself from fiddling with your hair, appearing nervous, or avoiding eye contact? With the knowledge gained from the videos and lots of practice, you can probably overcome most shortcomings.

Schedule Plenty of Time: When you schedule your interviews, you will specify (or negotiate) the desired number of people per interview and the probable length of each interview with your POC. In a group interview, the size should be about 5 to 10 or 12 people. It is unwise to interview large groups at once. (In a pretest, sometimes you have to anyway.) I recommend that interviews be scheduled for between thirty minutes to one hour, with some leeway to continue longer if the interview is going well and the participant or participants are agreeable.

Regardless of whether or not you permit the interview to continue longer than scheduled, schedule more time than you need and allow at least a half hour between interviews. You may not have complete control over how long your interview takes. For instance, the person interviewed may be interrupted, and you may have to "stop the clock" for a while. The time between interviews can be valuable to you; for example, to write notes or to relax since interviews are not easy and can be exhausting. If you use interview teams as recommended below (see Use Two Person Teams), it is advisable for the team members to discuss interviews immediately after they occur. Interviewers can also jot down or elaborate on notes between interviews while comments are fresh in their minds. The bottom line is to schedule more interview time than you expect to use and plenty of time between them. This not only helps you; it helps the interviewee to not feel rushed, and prevents you from having to abruptly terminate an interview because the next person or group is waiting.

Sometimes interviewers have the inconvenience of having to interview at several locations in an unfamiliar setting. These interviews may not even be in the same building or at the same site. You may have difficulty going from one interview location to the next and may even get lost along the way. In such a situation, scheduling lots of time between interviews becomes even more critical.

Arrange for Comfortable Surroundings: If possible, conduct the interview in comfortable surroundings and away from the person's office. You do not want the interviewee to be distracted by phones or other job demands. Keep the setting as intimate as possible. Fit the room to the number of people involved. Do not interview a few people in a very large room. However, the room should not be so small that people feel cramped or claustrophobic.

Use Two Person Teams: Do not gang up on interview participants. For instance, in most contexts, 4 or 5 people should not interview 1 or 2 persons. In many situations, two-person teams are ideal. The two people usually play different roles. The main interviewer is the facilitator, focusing most of his or her attention on the person being interviewed (active listening, maintaining eye contact, encouraging, asking questions and probes). The other interviewer may focus on note taking (see cautionary note below) while still being attentive to the person interviewed. The note taker is not restricted from asking questions (especially probes), but this activity is secondary. These roles can be switched during different interviews.

Sometimes it is wise **not** to take notes during an interview. Note taking may be distracting to the person(s) being interviewed, or may cause them to restrict what they say for fear of disclosure. Most people want their statements not-for-attribution and note taking suggests that their statements may be attributed to them. This is a judgment call. You may want to stop taking notes if a person gets into something very personal and distressing to them, or which may be used against them.

Present A Professional Appearance: Dress professionally for the interview and groom yourself well. Usually, conservative business clothes are appropriate. However, if those being interviewed might feel uncomfortable around interviewers who are very dressed up, dress more casually. You want to lessen status differences and need only enough status to establish your credibility as an interviewer. Conform to the dress expectations of those being interviewed, but dress nicely.

Conducting the Interview

Motivate Participation

Greet People and Introduce Yourself: As people come to the interview, greet them in a warm, friendly manner. Often, it is wise to shake hands with those being interviewed. However, if the group is too large, or you think they may be uncomfortable with this gesture, do not do it. Frequently, people are already seated for the interview and it may be cumbersome to shake everyone's hand. You can at least wave a friendly hello as you are introduced. You will likely be introduced by others in a formal way, but do not be too formal yourself. For instance, introduce yourself by your first name instead of using Mr., Ms., Dr. or Colonel.

Knowing the names of the persons you are interviewing is advantageous, but it may not be practical. If you do know their names, use this knowledge when addressing them. However, beware--do not assume you can call everyone by their first names. Some people would consider this an affront; especially from a stranger or someone they consider subordinate; others would welcome it. Use good judgment. Perhaps even ask. Especially in the military, use "Sir" or "Ma'am."

Indicate the Probable Length of the Interview: The person or persons interviewed may be busy and believe they have more important things to do than answer your questions. Keep the interview short. Be honest and realistic up-front about how long you expect it to take. Thirty minutes or less is ideal, but an hour or more may be acceptable. Participants may already know the expected length of the interview, since you negotiated it when you scheduled your interviews. But it is good to repeat your expectations to the group. If they believe the length to be reasonable, this will heighten their motivation to participate.

Overcome Reluctance and Heighten Interest: Establish good rapport with participants early in the interview. If the anyone is reluctant, you can make a "conversion attempt" (jargon for trying to change the person's minds about participating). Briefly give them an idea of who you are. Explain why you have come and who your client is. Also explain what the interview is about, why it is important, and why their participation is critical. Your first few minutes are critical-- you must convey quickly that you know what you are doing and capture the interest of those being interviewed.

Some persons interviewed may feel ill at ease. In such cases, be sympathetic and friendly, try to reduce the threat. Put the persons at ease. Make it clear you are not there to judge or to punish but to gather useful information in a way that will help rather than harm participants. Sometimes interviewees may be more shy than threatened and they may be unaccustomed to responding to questions face-to-face. Try to bring such people out. In establishing rapport, initially ask the interviewee a few easy questions about themselves or their job to "break the ice," even if this is not central to the issues you want to cover.

Sometimes respondents may be reluctant to participate because you failed to convince them of the importance of the interview. At other times they may be concerned about privacy or confidentiality. Probe the reasons for refusal and gently do what you can to heighten their interest and allay their fears.

One way to get people interested is to describe how their input should help bring about constructive change. (Do not promise this unless you are confident such change will occur.) You can also offer to share the aggregate results of the interviews and explain steps your client is likely to take to resolve the issues raised.

Reward Participation: The person interviewed should feel his or her time is well spent. The rewards of participation should outweigh the costs. Rewards can be subtle: anything from the pleasure of interacting with you to feeling consulted and able to have a positive influence. People like being consulted; it suggests they, and their views, are valued. You reward participation subtly throughout the interview by listening intently, saying things like "Uh huh," maintaining eye contact, and thanking participants for sharing their views. Remember, however, that you must remain neutral and should refrain from endorsing what is being said (for instance by saying "What a wonderful idea"). On the other hand, you must never express disdain for what is being said, or condemnation of the interviewee's views or behaviors.

Explain Ethical Safeguards:

Voluntary Participation: Voluntary participation is important. Explain early in the interview that participation is voluntary. If anyone is uncomfortable and expresses a desire not to participate, gently probe why. If you can convince them to stay, fine; if not, let them leave and thank them for coming.

Confidentiality and Non-Attribution: Emphasize confidentiality and non-attribution early in your introductory comments. If anyone is concerned about confidentiality, try to allay their fears. If you are conducting a group interview, request that all participants agree not to attribute specific comments to individuals when they leave the interview.

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Be Friendly Yet Professional: As you transition from introductory comments to interview questions, continue to make good use of your social skills. Be friendly and warm as the interview continues, but also be professional and purposeful. Don't be chatty, as you may have been before the interview when you were trying to build rapport.

Maintain Subtle Control: As the interviewer, you are "in charge." You have the right, if not the obligation, to maintain control of the interview. However, you should be subtle.

Avoid Rank Intimidation: In most organizational settings, hierarchy and status are important. Where you are in the hierarchy may be an issue, especially in the military, where "rank has its privileges." Naturally, **all** persons interviewed should be treated with dignity and respect. However, do not be intimidated by rank. Do not treat those of higher rank with special deference in the interview. The same courtesy and kindness should be extended to all. Consider all views equally important and do not mentally weight comments by the rank of the persons making them. However, rank and other interviewee characteristics are sometimes noted for demographic comparisons. People of different grades or ranks--or genders, ages, positions, etc.-- usually have different views and it is informative to identify these differences.

As interviewer, you are in charge of the interview. However, do not flaunt your power. If you are of higher grade or rank than those being interviewed, lessen status differences by treating others as your equal and doing other things to de-emphasize the status differential. Do not sit at the head of the table. Encourage others to call you by your first name and downplay your rank or title. If you are military, consider not wearing your uniform. On the other hand, wearing your uniform may be expected and may help you establish rapport with other military members.

Avoid Authoritarian Control: You are just a visitor when conducting interviews at other locations. Your sources of power may be more limited than in your own organization. Do not alienate those being interviewed because they can keep their mouths shut or treat you like a substitute teacher. Those used to command roles may need to be more subtle than usual when trying to maintain control in an interview.

Trying to be in charge without command authority can be difficult. You may have power based on the prestige of your organization or the client who sent you to interview. You may have "expert power" because you are reputed to know what you are doing. You may have developed a reputation as a caring person who can be trusted not to betray confidences. But your main source of power is the liking, acceptance and respect you generate in the interview. Use your expertise, charm, communication and interpersonal skills to maintain control without being heavy handed.

Watch for Distortion: Positive Spin: Watch for distortion. Look for "walk-on-water" embellishments of accomplishments or capabilities. People may make things sound better than they are. You may encounter social desirability bias. The interviewee may want to please you by telling you what they think you want to hear rather than accurately stating their own views. Alternatively, an interviewee may have an overly negative attitude, finding fault with everything. By being sensitive to these possibilities, and by interviewing several people with different roles and responsibilities, you can get a more balanced picture.

Be Sensitive to "Demand Characteristics:" Bias or Distraction: face-to-face contact provides more information about both interviewer and interviewee. Unfortunately, the presence of an interviewer can add unwanted "demand characteristics" to the situation. Bias can be introduced. As discussed earlier, the interviewee may want to respond in a socially desirable way. The interviewee may be influenced by interviewer characteristics such as: gender; race or ethnicity; social class, status, organizational position, age, attractiveness, grooming, or manner of dress. Participants may be offended by interviewers who are abrasive, insensitive, haughty, or rude.

Be Sensitive to Cultural Differences

      Cultural Diversity: We live in a multicultural, pluralistic society with people from different ethnic, racial, national and spiritual backgrounds. They are of different genders and ages and have different lifestyles, political views, interests, values etc. Interviewers must have knowledge of cultural diversity and be sensitive to multicultural issues. They should be open and flexible enough to appreciate diversity and considerate enough not to offend representatives of different groups. Interviewers should get people of differing backgrounds or lifestyles to interact with them and with each other, frankly expressing their views.

      Language Barriers: The interviewees may not speak English, or he or she may be more comfortable in another language. If this the case, use bilingual interviewers whenever necessary.

      Common Ground: Establish common ground between those being interviewed and those conducting the interview. A pre-interview chat about things you have in common (sports, music, a family, etc.) may help. Usually you do not have time for this, or you may have little idea of what you have in common. Outwardly obvious things can help establish common ground (like gender, race, age or military/civilian status) and make interviewees more comfortable. If you are interviewing a diverse workforce, use mixed interviewer teams which mirror such diversity, and tailor the team to the persons being interviewed.

Maintain Your Neutrality: Just as your questions must be neutral, you must also be neutral. Your personal opinions are not relevant. Do not convey your own views or you may bias responses. Do not criticize or be judgmental about the views or behavior of interviewees. Likewise, do not show strong endorsement. Listen attentively, but avoid conveying your own enthusiasm or disdain for particular responses.

Handle Abuse by Keeping Your Cool: Do not be surprised if you are verbally attacked during an interview. An interviewee may object to something you say and lecture you. If something like this happens to you, patiently listen without getting angry or defensive. Try to understand the other person's perspective and convey that understanding without being argumentative. Within limits, take the verbal abuse; it will be over soon. After giving the person reasonable time to express his or her concerns, politely but assertively return to the interview task. If a person's wrath is directed to the interview itself--for instance, it is considered too invasive, or a waste of time, excuse the person. Do not become angry or unprofessional, and do not take the hostility personally.

Allow For Reflection and Probe For Clarification: Interviewees may feel pressured to provide a quick response and, having little time for deliberation, may answer too soon, giving a

short or superficial response. Allow them time to reflect, and probe (ask a follow-up question tailored to the response) if the answer given seems insufficient.

Listen More than You Speak: Interviewers must be articulate, and occasionally, verbally assertive. However, it is not the interviewer's role to dominate the conversation. Your job is to get others to speak and to listen for the meaning in what they say. They are the content experts. Interviewers should talk little and listen a lot. They should also avoid interrupting others who are speaking. During pauses, the interviewer can interject a comment, probe for clarification, or move to another topic.

Encourage Everyone's Participation: If you are in a group interview, pay attention to and encourage everyone's participation. Do not let the men (or women) dominate, or the highest-ranking, or the managers, or the loudest, or the most opinionated. Encourage shy participants to speak. Ask them what they think of your question or of what others are saying.

Terminate the Interview: At the beginning of the interview the interviewer should indicate the approximate time the interview will take. How long it actually takes depends on how well it is going and how enthusiastically engaged participants have become. If you exceed the allotted time, ask if continuing the interview is acceptable, unless it is going so well that you do not want to break the flow. If you must interview for extended periods, schedule multiple sessions over several days. Schedule additional interviews in advance and be sensitive to the interviewee's own schedule. Be sensitive also to subtle cues that it may be time to leave, and thank people for their participation when you terminate the interview. Avoid having to rush people out so the next group can come in.

Appendix K: Suggested Questions for Pretest Participants

These suggested questions would be asked after pretest participants have taken your survey. Questioning need not be very structured and you need not ask the questions in exactly the way they are presented here. These are just question ideas. Questions like these could be asked of individual respondents, respondents in larger groups, or respondents in small, informal, focus groups. Of the three formats the focus group is best since it is intimate, relaxed, and produces a synergistic effect by encouraging participants to reflect and comment on the views of other respondents. You may not have the luxury to use focus groups. For example, you may only have participants for a limited time and need to interview them all at once in a larger group. Do the best you can.

This is a list of possible questions that addresses multiple survey and interview formats. Do not expect to ask them all. Develop additional pretest questions of special interest to you.

INTRODUCTORY COMMENTS: Explain the purpose of a pretest to participants and emphasize how you need their help to improve the survey before it goes to the field. Since they represent the people who will be receiving the survey, they have a special perspective to offer. Without their input, the survey developer could not be sure the right questions are being asked and if they communicate well to respondents.

LENGTH: Have participants indicate their start/stop times unless this is done automatically by your computer software on an automated survey. Was the survey too long, too short, or about right? About how long did it take?

OVERALL REACTION TO SURVEY: Generally, what did participants think of the survey? Let them ventilate here. Do not become annoyed if they did not like your survey, or if they express concerns about confidentiality.

OVERALL REACTION TO TOPIC: Generally, what did they think about the content or topic of the survey? Is it important to them?

COVER LETTER, VOLUNTARY PARTICIPATION AND CONFIDENTIALITY: Was the cover letter clear. Did it convince pretest participants that the survey was important? Did they understand that the survey was voluntary and confidential? What do these terms mean to them? Did they trust that individual responses would be kept confidential? How important is confidentiality to them?

INSTRUCTIONS: Were the instructions easy to understand? Did they understand how to use the answer sheet or how to respond via computer? Did they need examples of the right and wrong ways to mark the answer sheet, if a paper-and-pencil format was used? If a computer was used, was there too much information on each computer screen?

ANSWER SHEET: Do they understand what they should **not** do with the answer sheet if a paper-and-pencil format with a separate sheet was used? For instance, did they know not to fold it, staple it, place stray marks on it, or use a pen? Was the sheet easy to read?

HELP OR HARM: Do they believe the survey will be used to help them and their coworkers (or whomever) or to hurt them? Do they think that management (or other client) will take their

responses seriously enough to make needed improvements? Will these changes positively affect them?

PARTICIPATION WORTH THE TIME: Was the survey worth taking--worth their time to complete?

RELUCTANCE TO PARTICIPATE: Were they reluctant to take the survey, or offended/annoyed by any of its content? Were items too intrusive? Were there any items they felt they should not answer? Why? What items, if any, did they skip? Were they consciously deceptive in responding to any items? Which ones?

CHANGES, ADDITIONS, DELETIONS: Were there any items (or words or phrases) they did not understand? Would they recommend wording any items differently, either to improve their clarity or to lessen their offensiveness? What items or other content would they add to the survey or delete from it? Why?

APPROPRIATENESS OF RESPONSE OPTIONS: Were the response options complete and appropriate? (Avoid jargon such as exhaustive and mutually exclusive.) Did they understand how to use common response scales? Did they like the scales used? Did they find themselves not having an opinion or not knowing how to respond? Were the number of common scales used too many or just about right. Were there other responses they may have wanted to provide to any item? Which ones? What are these alternative responses? Did they like having negative items included on the survey? Why?

COMMENTS PAGE: Did they want to write on the comments page? What would they say? Was there sufficient room for comments, either in response to specific items, or at the end of the survey?

FLAWLESS COMPUTER OPERATION: If the survey was computerized, was the operation of the survey flawless. Did it branch in a way that was transparent to the user? That is, did it turn out that members of the appropriate subgroup got the items intended for them and others did not?

FORMAT PREFERENCE: If the survey is automated, did participants prefer the automated format to paper-and-pencil surveys they had taken in the past? If the survey used the Computer-Assisted Telephone Interview (CATI) approach, was it preferred to other formats?

INTERVIEWER SKILLS: If a CATI survey or face-to-face interview was used, was the interviewer particularly skilled? Skill dimensions could include, but not be limited to:

- success with a conversion attempt (i.e., convincing reluctant people to participate),
- friendliness, warmth, and empathy,
- flexibility,
- knowledge of the topic,
- questioning skill (including probes),
- clarification skill,
- ability to listen,
- remaining calm, unflustered and non-judgmental, and
- knowing when and how to terminate the interview.

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Was the interviewer obnoxious, pushy or otherwise annoying? What advice would you give the interviewer to improve his or her future performance?

OTHER CONCERNS OR COMMENTS: Are their other concerns/comments about the topic or about the survey they would like to make?

THANK YOU: Thank pretest participants for their assistance.